

## INVENTOR SEARCH

=> fil capl; d que nos 139

FILE 'CAPLUS' ENTERED AT 08:07:05 ON 30 JUL 2009

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FILE COVERS 1907 - 30 Jul 2009 VOL 151 ISS 5

FILE LAST UPDATED: 29 Jul 2009 (20090729/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2009.

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<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/Caplus family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 22.

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

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L2          STR
L4          774 SEA FILE=REGISTRY SSS FUL L2
L29         1 SEA FILE=CAPLUS SPE=ON  ABB=ON  US2005-562742/AP
L30        1366 SEA FILE=CAPLUS SPE=ON  ABB=ON  SHIMOMURA K?/AU
L31        387 SEA FILE=CAPLUS SPE=ON  ABB=ON  AONO H?/AU
L32        516 SEA FILE=CAPLUS SPE=ON  ABB=ON  TSUKAHARA Y?/AU
L33       2370 SEA FILE=CAPLUS SPE=ON  ABB=ON  HATA T?/AU
L34       1880 SEA FILE=CAPLUS SPE=ON  ABB=ON  L4
L39         1 SEA FILE=CAPLUS SPE=ON  ABB=ON  (L29 OR L30 OR L31 OR L32 OR
          L33) AND L34

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=> d ibib abs hitstr 139

L39 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:29228 CAPLUS Full-text

DOCUMENT NUMBER: 142:107431

TITLE: Pain threshold fall inhibitor

INVENTOR(S): Shimomura, Kyoichi; Aono, Hiroyuki  
 ; Tsukahara, Yaeko; Hata, Taeko  
 PATENT ASSIGNEE(S): Santen Pharmaceutical Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 30 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND   | DATE     | APPLICATION NO. | DATE         |
|------------------------|--|----------|-----------------|--------------|
| WO 2005002622          | A1   | 20050113 | WO 2004-JP9766  | 20040702     |
| W:                     | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |          |                 |              |
| RW:                    | BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |          |                 |              |
| JP 2005041866          | A  | 20050217 | JP 2004-196146  | 20040702     |
| EP 1642590             | A1   | 20060405 | EP 2004-747234  | 20040702     |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK   |          |                 |              |
| US 20070117853         | A1   | 20070524 | US 2005-562742  | 20051229 <-- |
| PRIORITY APPLN. INFO.: |  |          | JP 2003-270967  | A 20030704   |
|                        |  |          | WO 2004-JP9766  | W 20040702   |

OTHER SOURCE(S): MARPAT 142:107431

AB A medical drug capable of inhibiting the fall of pain threshold. In particular, a  $\kappa$ -opioid receptor agonist is capable of effectively inhibiting the fall of pain threshold, so that it is useful as a pain threshold fall inhibitor.

IT 83913-06-8 185951-07-9 610308-87-7  
 610308-92-4 610309-27-8 610309-63-2  
 823204-37-1 823204-39-3 823204-44-0  
 823204-46-2 823791-11-3,  
 2-(3,4-Dichlorophenyl)-N-methyl-N-[(5R',7S',8S')-7-(1-pyrrolidinyl)-1-oxaspiro[4.5]dec-8-yl]acetamide methanesulfonate

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

( $\kappa$ -opioid receptor agonists as pain threshold fall inhibitors)

RN 83913-06-8 CAPLUS

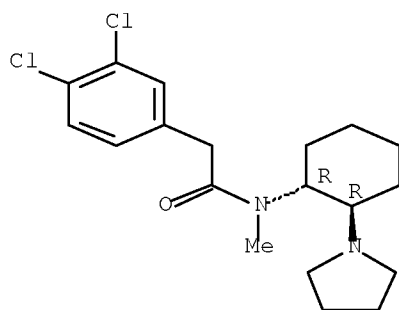
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

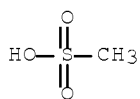
Relative stereochemistry.



CM 2

CRN 75-75-2

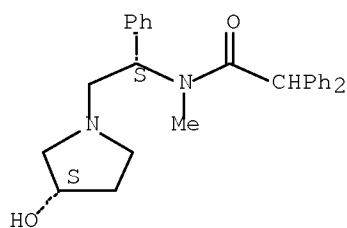
CMF C H4 O3 S



RN 185951-07-9 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-  
N-methyl- $\alpha$ -phenyl-, hydrochloride (1:1) (CA INDEX NAME)

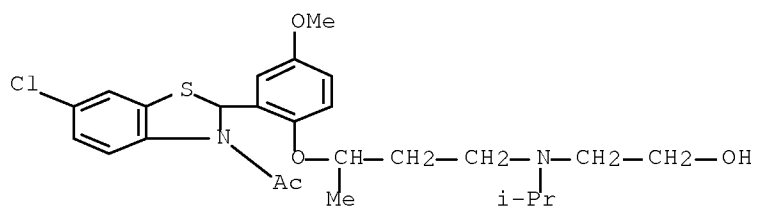
Absolute stereochemistry.



● HCl

RN 610308-87-7 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]-1-methylpropoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride  
(1:1) (CA INDEX NAME)

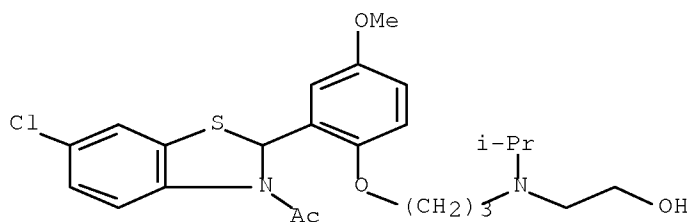


● HCl

RN 610308-92-4 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (+)- (CA INDEX NAME)

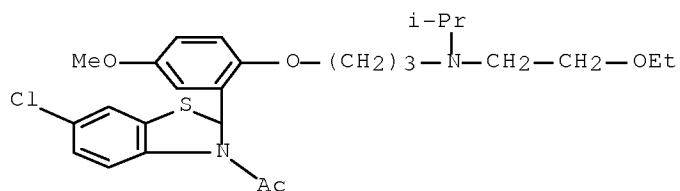
Rotation (+).



● HCl

RN 610309-27-8 CAPLUS

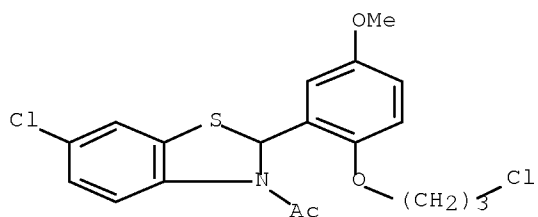
CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-ethoxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, (CA INDEX NAME)



RN 610309-63-2 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-(3-chloropropoxy)-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, (+)- (CA INDEX NAME)

Rotation (+).

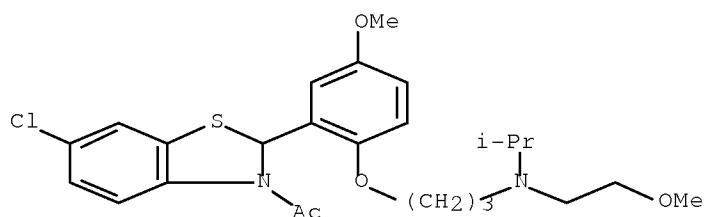


RN 823204-37-1 CAPLUS  
 CN Butanedioic acid, 2,3-bis(acetyloxy)-, (2R,3R)-, compd. with  
 1-[6-chloro-2-[5-methoxy-2-[3-[(2-methoxyethyl)(1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]ethanone (1:2) (CA  
 INDEX NAME)

CM 1

CRN 610309-32-5  
 CMF C25 H33 Cl N2 O4 S

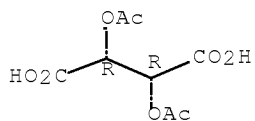
Rotation (+).



CM 2

CRN 51591-38-9  
 CMF C8 H10 O8

Absolute stereochemistry. Rotation (-).

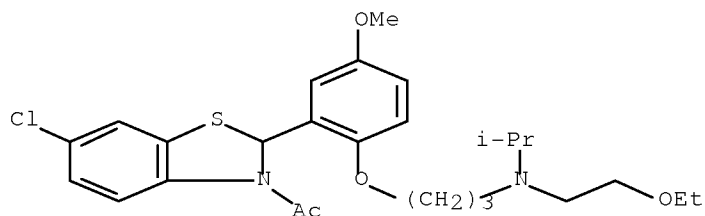


RN 823204-39-3 CAPLUS  
 CN Butanedioic acid, 2,3-bis(acetyloxy)-, (2R,3R)-, compd. with  
 1-[6-chloro-2-[2-[3-[(2-ethoxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]ethanone (1:2) (CA INDEX NAME)

CM 1

CRN 610309-34-7  
 CMF C26 H35 Cl N2 O4 S

Rotation (+).

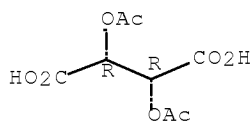


CM 2

CRN 51591-38-9

CMF C8 H10 O8

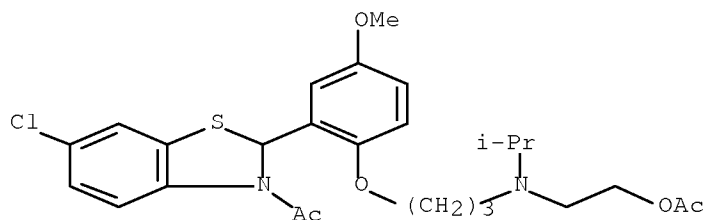
Absolute stereochemistry. Rotation (-).



RN 823204-44-0 CAPLUS

CN Ethanone, 1-[2-[2-[3-[[2-(acetyloxy)ethyl](1-methylethyl)amino]propoxy]-5-methoxyphenyl]-6-chloro-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (+)-(CA INDEX NAME)

Rotation (+).

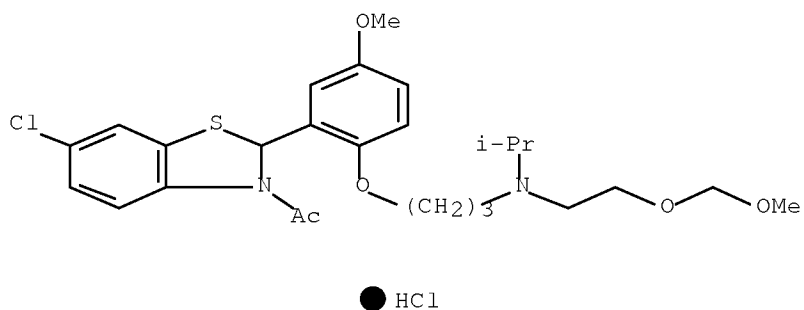


● HCl

RN 823204-46-2 CAPLUS

CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[[2-(methoxymethoxy)ethyl](1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (+)-(CA INDEX NAME)

Rotation (+).

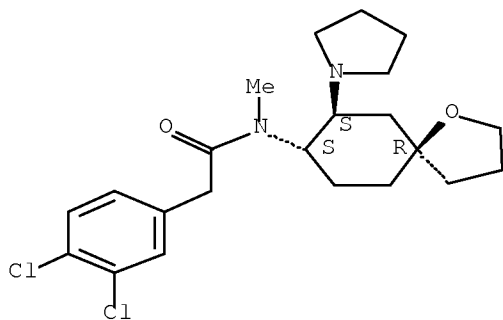


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|----|--|--------|
| RN | 823791-11-3  | CAPLUS |
| CN | Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(5R,7S,8S)-7-(1-pyrrolidinyl)-1-oxaspiro[4.5]dec-8-yl]-, methanesulfonate (1:1) (CA INDEX NAME) |        |

CM 1

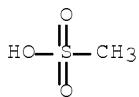
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CMF C22 H30 C12 N2 O2

Absolute stereochemistry.



CM 2

CRN 75-75-2  
CMF C H4 O3 S



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

## STRUCTURE SEARCH PART 1

=> fil reg; d stat que l10; fil capl; d que nos l35; s l35 not l39  
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STRUCTURE FILE UPDATES: 28 JUL 2009 HIGHEST RN 1169929-67-2  
 DICTIONARY FILE UPDATES: 28 JUL 2009 HIGHEST RN 1169929-67-2

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TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

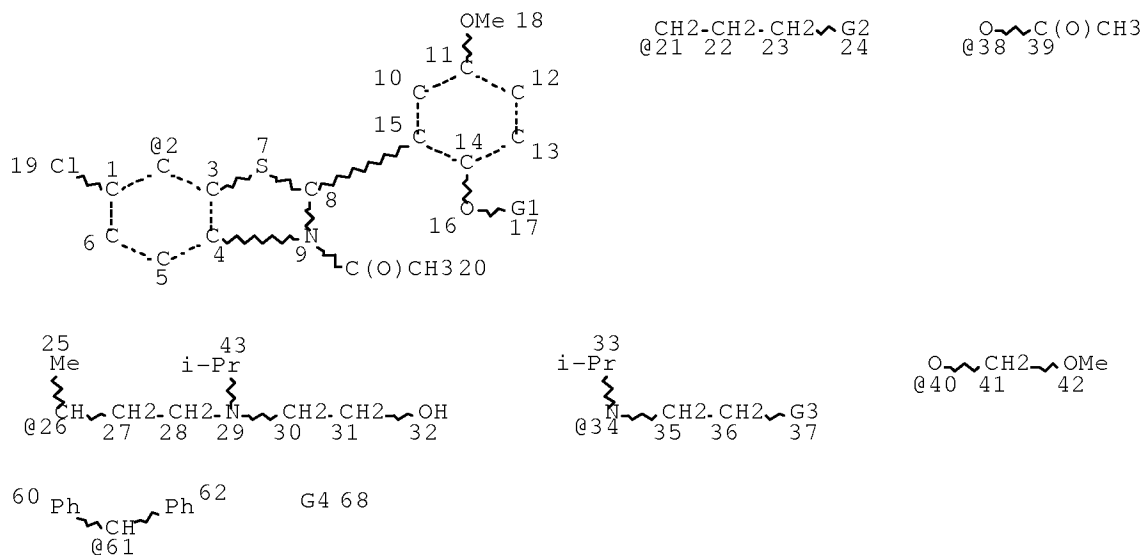
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REGISTRY includes numerically searchable data for experimental and  
 predicted properties as well as tags indicating availability of  
 experimental property data in the original document. For information  
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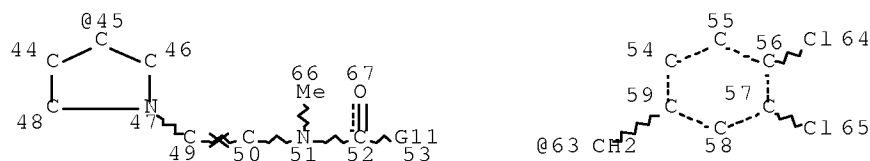
<http://www.cas.org/support/stngen/stdoc/properties.html>

L2

STR



Page 1-A





Page 2-A

VAR G1=21/26

VAR G2=34/CL

VAR G3=38/OET/40/OH/OME

VAR G4=2/45

VAR G11=63/61

NODE ATTRIBUTES:

NSPEC IS RC AT 49

NSPEC IS RC AT 50

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

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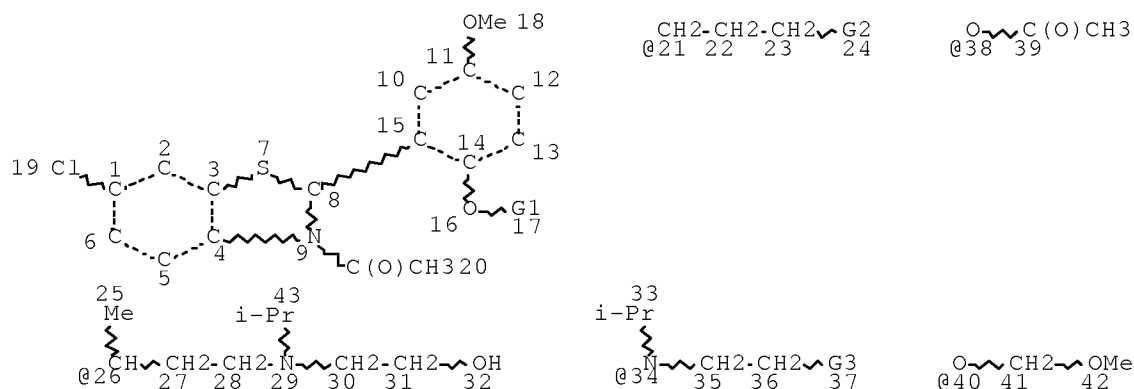
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 68

STEREO ATTRIBUTES: NONE

L4 774 SEA FILE=REGISTRY SSS FUL L2

L8 STR



VAR G1=21/26

VAR G2=34/CL

VAR G3=38/OET/40/OH/OME

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE

L10 33 SEA FILE=REGISTRY SUB=L4 SSS FUL L8

100.0% PROCESSED 33 ITERATIONS

33 ANSWERS

SEARCH TIME: 00.00.01

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FILE COVERS 1907 - 30 Jul 2009 VOL 151 ISS 5  
 FILE LAST UPDATED: 29 Jul 2009 (20090729/ED)  
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009  
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'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

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 L4 774 SEA FILE=REGISTRY SSS FUL L2  
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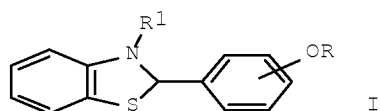
=> d ibib abs hitstr 155 1-2

L55 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2003:796678 CAPLUS Full-text  
 DOCUMENT NUMBER: 139:312393  
 TITLE:  $\kappa$ -Opioid receptor agonist comprising  
 2-phenylbenzothiazoline derivative  
 INVENTOR(S): Tokai, Maki; Honda, Takahiro; Niwa, Masashi; Osumi,  
 Yaeko; Fujimura, Ken-ichi; Kohno, Shin-ichi  
 PATENT ASSIGNEE(S): Santen Pharmaceutical Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 129 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE        |
|---|------|----------|------------------|-------------|
| WO 2003082840   | A1   | 20031009 | WO 2003-JP3928   | 20030328    |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                  |             |
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| CA 2480560  | A1   | 20031009 | CA 2003-2480560  | 20030328    |
| AU 2003220894   | A1   | 20031013 | AU 2003-220894   | 20030328    |
| AU 2003220894   | B2   | 20090205 |                  |             |
| JP 2004002352   | A    | 20040108 | JP 2003-89657    | 20030328    |
| JP 4296345  | B2   | 20090715 |                  |             |
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| NZ 535987   | A    | 20060831 | NZ 2003-535987   | 20030328    |
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| EP 2042173  | A2   | 20090401 | EP 2009-611      | 20030328    |
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|   |      |          | CN 2003-807275   | A3 20030328 |
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|   |      |          | JP 2003-89657    | A3 20030328 |
|   |      |          | WO 2003-JP3928   | W 20030328  |
|   |      |          | US 2004-509549   | A1 20040928 |

OTHER SOURCE(S): MARPAT 139:312393  
 GI



AB Dislocation closed is a  $\kappa$ -opioid receptor agonist comprising a 2-phenylbenzothiazoline derivative which is either a compound having a basic skeleton having a chemical structure represented by the general formula (I) (wherein R represents amino-substituted alkyl and R1 represents acyl) or a salt of the compound. Also disclosed is an analgesic in particular for rheumatism-like diseases or anti-itching agent containing the above  $\kappa$ -opioid receptor agonist as an active ingredient. The presence of an amino-substituted alkyl group bonded to the Ph group of 2-phenylbenzothiazoline and the presence of an acyl group bonded to the nitrogen atom of the 2-phenylbenzothiazoline are important for the impartation of  $\kappa$ -opioid receptor agonistic activity. The compound I also possesses anti-nociception activity. For example, (+)-3-acetyl-6-chloro-2-[2-[3-[N-(2-ethoxyethyl)-N-isopropylamino]propoxy]-5-methoxyphenyl]benzothiazoline hydrochloride at 30 mg/kg p.o. inhibited 100% pain in a mouse acetic acid-writhing assay.

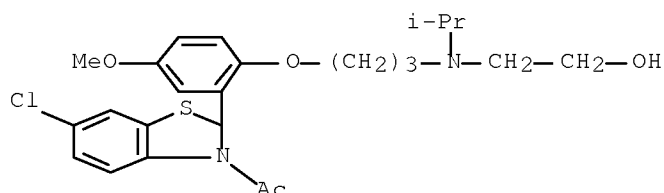
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 610309-05-2P 610309-06-3P 610309-14-3P  
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 610309-34-7P 610309-42-7P 610309-45-0P  
 610309-46-1P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

( $\kappa$ -opioid receptor agonist, analgesic, and anti-itching agent comprising phenylbenzothiazoline derivative)

RN 610308-21-9 CAPLUS

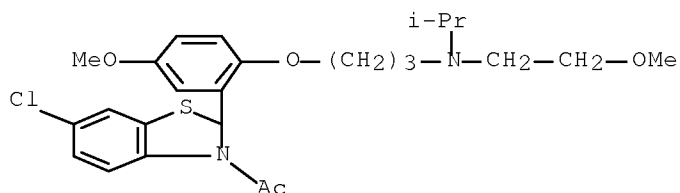
CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

RN 610308-47-9 CAPLUS

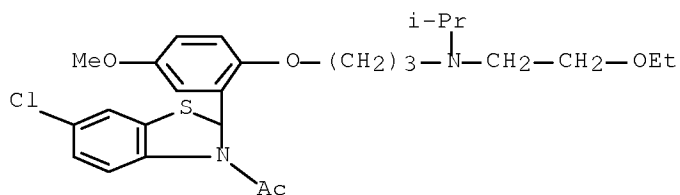
CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[(2-methoxyethyl)(1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

RN 610308-60-6 CAPLUS

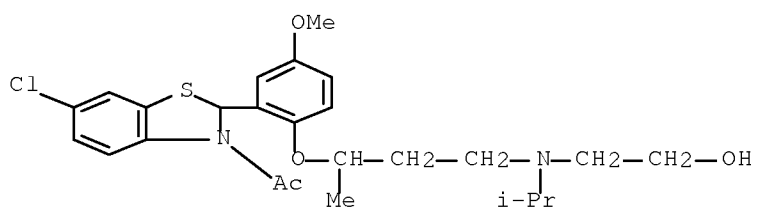
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● HCl

RN 610308-87-7 CAPLUS

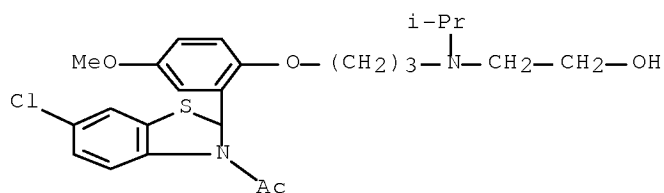
CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]-1-methylpropoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1) (CA INDEX NAME)



● HCl

RN 610308-88-8 CAPLUS

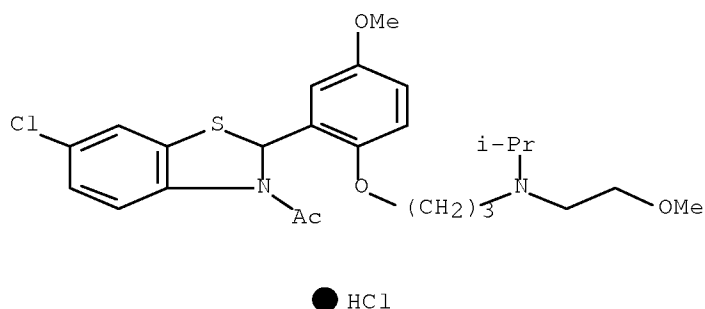
CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]- (CA INDEX NAME)



RN 610308-91-3 CAPLUS

CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[(2-methoxyethyl)(1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (+)- (CA INDEX NAME)

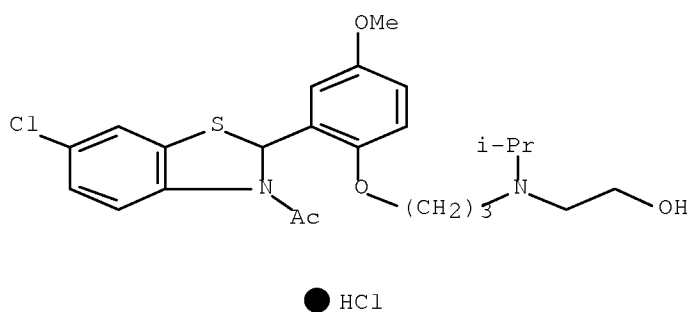
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RN 610308-92-4 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (+)- (CA INDEX NAME)

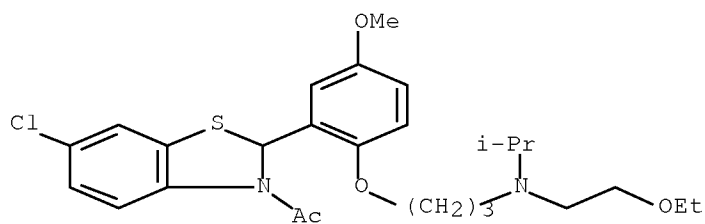
Rotation (+).



RN 610308-93-5 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-ethoxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (+)- (CA INDEX NAME)

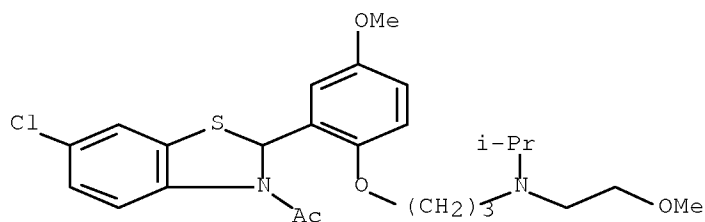
Rotation (+).



● HCl

RN 610309-04-1 CAPLUS  
 CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[(2-methoxyethyl)(1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (-)- (CA INDEX NAME)

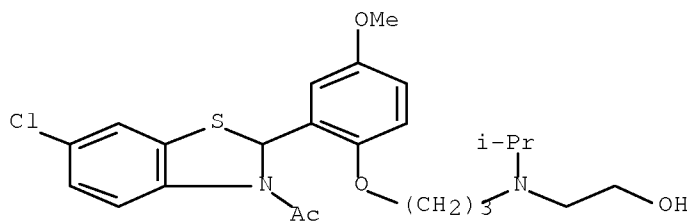
Rotation (-).



● HCl

RN 610309-05-2 CAPLUS  
 CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (-)- (CA INDEX NAME)

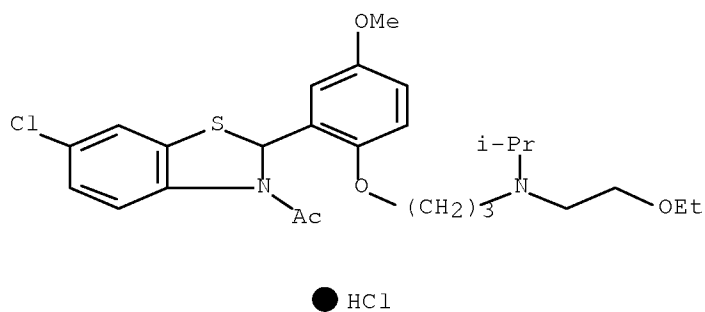
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● HCl

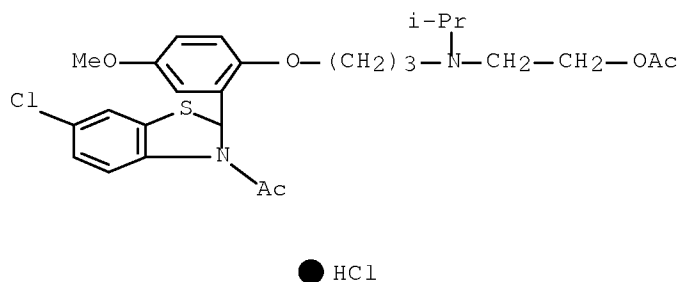
RN 610309-06-3 CAPLUS  
 CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-ethoxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1), (-)- (CA INDEX NAME)

Rotation (-).



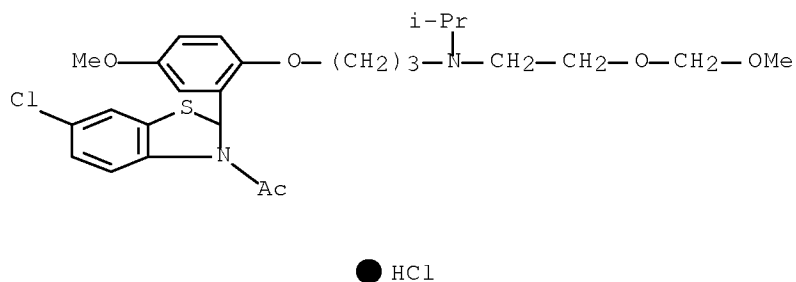
RN 610309-14-3 CAPLUS

CN Ethanone, 1-[2-[2-[3-[[2-(acetyloxy)ethyl](1-methylethyl)amino]propoxy]-5-methoxyphenyl]-6-chloro-3(2H)-benzothiazolyl]-, hydrochloride (1:1) (CA INDEX NAME)



RN 610309-21-2 CAPLUS

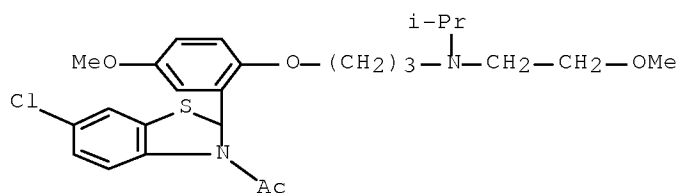
CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[[2-(methoxymethoxy)ethyl](1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]-, hydrochloride (1:1) (CA INDEX NAME)



RN 610309-26-7 CAPLUS

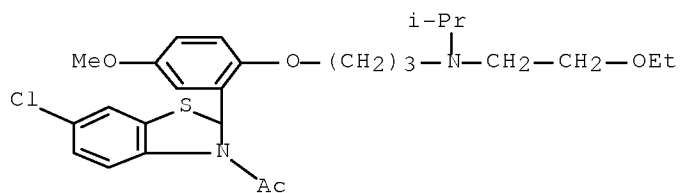
CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[(2-methoxyethyl)(1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]- (CA INDEX NAME)





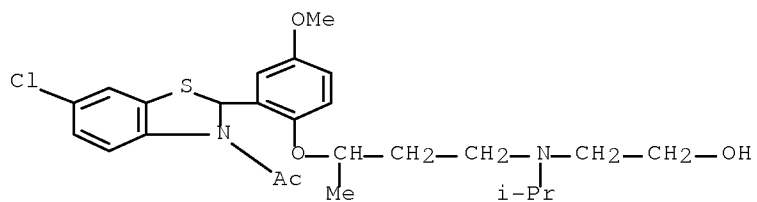
RN 610309-27-8 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-ethoxyethyl)(1-methylethyl)amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]- (CA INDEX NAME)



RN 610309-30-3 CAPLUS

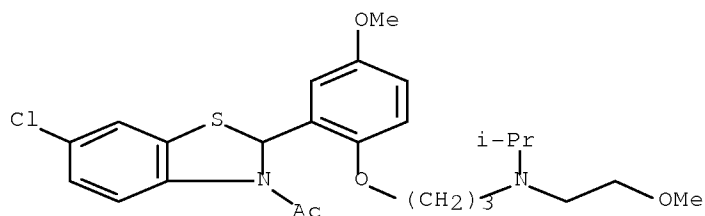
CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-methylethyl)amino]-1-methylpropoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]- (CA INDEX NAME)



RN 610309-32-5 CAPLUS

CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[(2-methoxyethyl)(1-methylethyl)amino]propoxy]phenyl]-3(2H)-benzothiazolyl]-, (+)- (CA INDEX NAME)

Rotation (+).

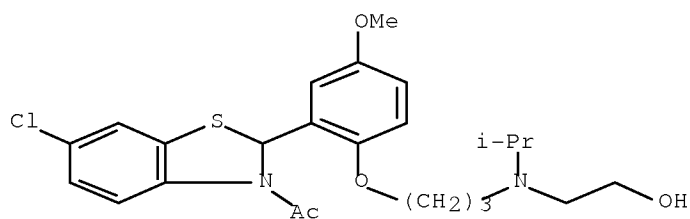


RN 610309-33-6 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-hydroxyethyl)(1-

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(CA INDEX NAME)

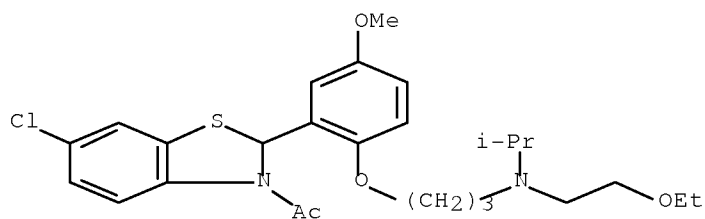
Rotation (+).



RN 610309-34-7 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-ethoxyethyl)(1-methylethyl) amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, (+)-  
(CA INDEX NAME)

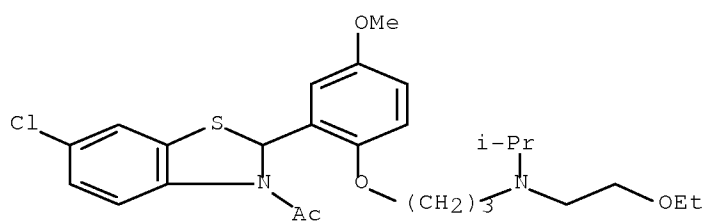
Rotation (+).



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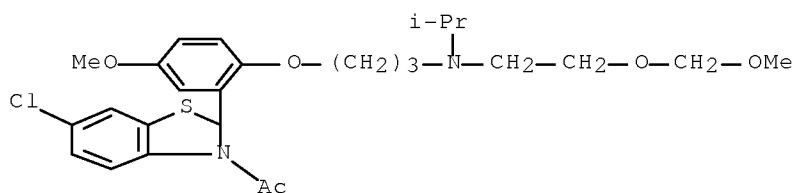
CN Ethanone, 1-[6-chloro-2-[2-[3-[(2-ethoxyethyl)(1-methylethyl) amino]propoxy]-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, (-)-  
(CA INDEX NAME)

Rotation (-).



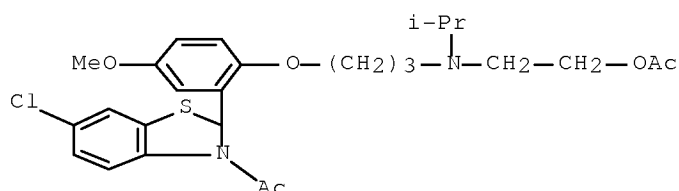
RN 610309-45-0 CAPLUS

CN Ethanone, 1-[6-chloro-2-[5-methoxy-2-[3-[[2-(methoxymethoxy)ethyl](1-methylethyl) amino]propoxy]phenyl]-3(2H)-benzothiazolyl]- (CA INDEX NAME)



RN 610309-46-1 CAPLUS

CN Ethanone, 1-[2-[2-[3-[[2-(acetyloxy)ethyl](1-methylethyl)amino]propoxy]-5-methoxyphenyl]-6-chloro-3(2H)-benzothiazolyl]- (CA INDEX NAME)



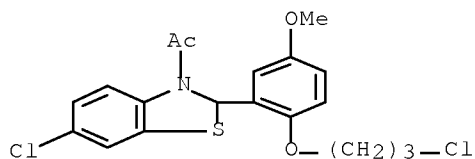
IT 113933-26-9P 610309-63-2P 610309-64-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(κ-opioid receptor agonist, analgesic, and anti-itching agent comprising phenylbenzothiazoline derivative)

RN 113933-26-9 CAPLUS

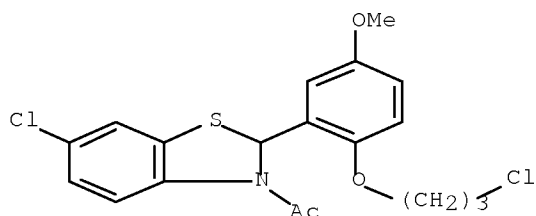
CN Ethanone, 1-[6-chloro-2-[2-(3-chloropropoxy)-5-methoxyphenyl]-3(2H)-benzothiazolyl]- (CA INDEX NAME)



RN 610309-63-2 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-(3-chloropropoxy)-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, (+)- (CA INDEX NAME)

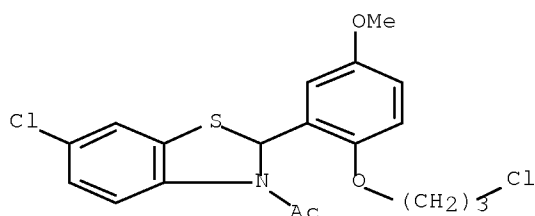
Rotation (+).



RN 610309-64-3 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-(3-chloropropoxy)-5-methoxyphenyl]-3(2H)-benzothiazolyl]-, (-)- (CA INDEX NAME)

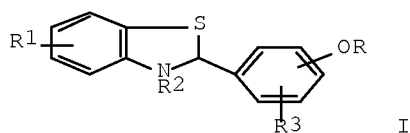
Rotation (-).



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)  
 REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1988:167460 CAPLUS Full-text  
 DOCUMENT NUMBER: 108:167460  
 ORIGINAL REFERENCE NO.: 108:27533a,27536a  
 TITLE: Preparation of 2-phenylbenzothiazoline derivatives as cardiovascular agents  
 INVENTOR(S): Iwao, Junichi; Iso, Tadashi; Kawashima, Yoichi  
 PATENT ASSIGNEE(S): Santen Pharmaceutical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.                   | KIND | DATE     | APPLICATION NO. | DATE     |
|------------------------------|------|----------|-----------------|----------|
| -----                        | ---- | -----    | -----           | -----    |
| JP 62221679                  | A    | 19870929 | JP 1986-63189   | 19860319 |
| PRIORITY APPLN. INFO.:<br>GI |      |          | JP 1986-63189   | 19860319 |



AB The title compds. [I; R = AmR4; R1 = 1 or multiple groups selected from lower alkyl, lower alkoxy, OH, halo, cyano, NO2, lower haloalkyl, or lower alkanoyl; R2 = lower alkanoyl, lower alkylcarbamoyl, PhNHCO, MeSO2; R3 = 1 or multiple groups selected from H, OH, lower alkyl, lower alkoxy, NO2, halo, or lower alkanoyloxy; R4 = (CH)nR5, oxiranyl; R5 = N-substituted aminomethyl, halomethyl; m, n = 0, 1; A = Cl-5 alkylene], useful as cardiovascular agents (no data) were prepared A solution of 2,5-(H2N)ClC6H3SH in PhMe was added to a solution of 2,5-(HO)(MeO)C6H3CHO in PhMe-MeOH and the mixture was heated at

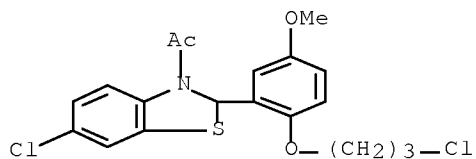
40° for 1 h. To the mixture, a solution of N-acetylimidazole in PhMe-MeOH was added and the mixture was stirred at room temperature for 6 h to give 53.3% I (OR = 2-OH, R1 = 6-Cl, R2 = Ac, R3 = 5-MeO).

IT 113933-26-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of, as cardiovascular agent)

RN 113933-26-9 CAPLUS

CN Ethanone, 1-[6-chloro-2-[2-(3-chloropropoxy)-5-methoxyphenyl]-3(2H)-benzothiazolyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)

## STRUCTURE SEARCH PART 2

=> fil reg; d stat que l41

FILE 'REGISTRY' ENTERED AT 08:08:01 ON 30 JUL 2009

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STRUCTURE FILE UPDATES: 28 JUL 2009 HIGHEST RN 1169929-67-2

DICTIONARY FILE UPDATES: 28 JUL 2009 HIGHEST RN 1169929-67-2

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TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

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<http://www.cas.org/support/stngen/stdoc/properties.html>

L41 2 SEA FILE=REGISTRY SPE=ON ABB=ON 823791-10-2 OR 823791-10-2/C  
RN

=> d ide l41 1-2

L41 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2009 ACS on STN

RN 823791-11-3 REGISTRY

ED Entered STN: 01 Feb 2005

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(5R,7S,8S)-7-(1-pyrrolidinyl)-1-oxaspiro[4.5]dec-8-yl]-, methanesulfonate (1:1) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(5R,7S,8S)-7-(1-pyrrolidinyl)-1-oxaspiro[4.5]dec-8-yl]-, monomethanesulfonate (9CI)

OTHER NAMES:

CN 2-(3,4-Dichlorophenyl)-N-methyl-N-[(5R',7S',8S')-7-(1-pyrrolidinyl)-1-oxaspiro[4.5]dec-8-yl]acetamide methanesulfonate

FS STEREOSEARCH

MF C22 H30 Cl2 N2 O2 . C H4 O3 S

SR CA

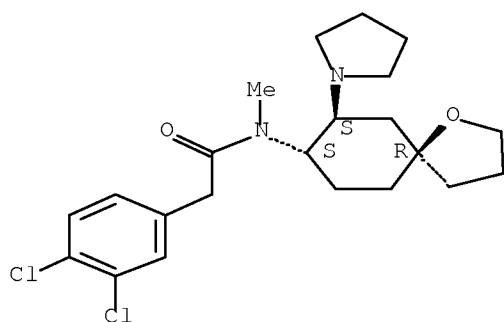
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 823791-10-2

CMF C22 H30 Cl2 N2 O2

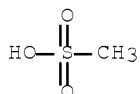
Absolute stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L41 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2009 ACS on STN

RN 823791-10-2 REGISTRY

ED Entered STN: 01 Feb 2005

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(5R,7S,8S)-7-(1-pyrrolidinyl)-1-oxaspiro[4.5]dec-8-yl]- (CA INDEX NAME)

FS STEREOSEARCH

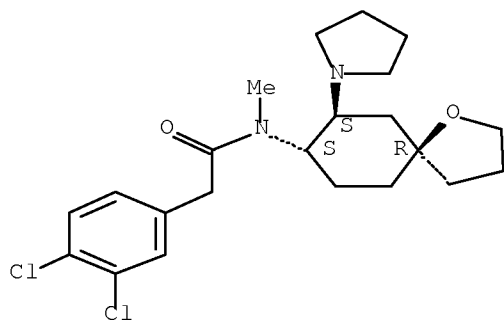
MF C22 H30 Cl2 N2 O2

CI COM

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.







TITLE: Chemical function-based pharmacophore development for novel, selective kappa opioid receptor agonists  
 AUTHOR(S): Singh, Nidhi; Nolan, Tammy L.; McCurdy, Christopher R.  
 CORPORATE SOURCE: Department of Medicinal Chemistry, Laboratory for Applied Drug Design and Synthesis, The University of Mississippi, MS, 38677, USA  
 SOURCE: Journal of Molecular Graphics & Modelling (2008), 27(2), 131-139  
 CODEN: JMGMFI; ISSN: 1093-3263  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB In an effort to reduce or eliminate the centrally associated side effects produced by opioid analgesics there has been an interest in the preparation of peripherally acting opioid receptor agonists. These compds. would have very limited or no access to the central nervous system. As a first step towards developing peripheral kappa opioid receptor (KOP) agonists, the authors have developed a quant. predictive chemical function-based pharmacophore model of selective kappa opioid receptor agonists by using the HypoGen algorithm implemented in the Catalyst software. The input for HypoGen was a training set of 26 KOP agonists exhibiting K<sub>i</sub> values ranging between 0.015 nM and 2300 nM. The best output hypothesis consists of four features: one hydrophobic (HYD), one ring aromatic (RA), one hydrogen bond acceptor (HBA), and one pos. ionizable (PI) function. The predictive power of the model could be demonstrated by internal and external validation of the generated hypothesis. The resulting Catalyst pharmacophore can be used concurrently for rapid virtual screening of chemical databases to identify novel, selective KOP agonists that may be easily restricted to target tissues by synthetic modification. It is anticipated that such an approach will lead to the generation of novel selective KOP agonists that are clin. useful for the treatment of pain through peripheral mechanisms.

CC 1-3 (Pharmacology)

IT 67198-19-0 85888-40-0 96744-75-1 112217-76-2 114419-76-0  
 114419-79-3 115201-37-1 116508-24-8 126766-42-5 130497-34-6  
 130497-40-4 130926-30-6 139095-05-9 153205-46-0 154711-57-6  
 261524-22-5 792894-31-6 808753-19-7 809286-65-5 810025-48-0  
 823791-10-2 847947-75-5 847948-10-1 849517-40-4  
 1108208-71-4 1108208-72-5 1108208-73-6 1108208-74-7 1108208-75-8  
 1108208-76-9 1108208-77-0 1108208-78-1 1108208-79-2 1108208-80-5  
 1108208-81-6 1108208-82-7 1108208-83-8 1108208-84-9

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(chemical function-based pharmacophore development for novel, selective kappa opioid receptor agonists with possible analgesic applications)

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

## STRUCTURE SEARCH PART 3

=> fil req; d que 145

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DICTIONARY FILE UPDATES: 28 JUL 2009 HIGHEST RN 1169929-67-2

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<http://www.cas.org/support/stngen/stdoc/properties.html>

L45                    2 SEA FILE=REGISTRY SPE=ON    ABB=ON    153205-46-0 OR 153205-46-0/CR  
                              N

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=> fil capl; d que 150
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FILE 'CAPLUS' ENTERED AT 08:09:05 ON 30 JUL 2009

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FILE COVERS 1907 - 30 Jul 2009 VOL 151 ISS 5

FILE LAST UPDATED: 29 Jul 2009 (20090729/ED)

REVISÉD CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2009.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/CAPLUS family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 22.

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L45                    2 SEA FILE=REGISTRY SPE=ON   ABB=ON   153205-46-0 OR 153205-46-0/CR  
N  
L50                    87 SEA FILE=CAPLUS SPE=ON   ABB=ON   L45

=> => d ibib abs hitstr 150 74-87    TEN OLDEST REFERENCES PROVIDED

L50 ANSWER 74 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER:        1998:413024 CAPLUS Full-text

DOCUMENT NUMBER:        129:144659

ORIGINAL REFERENCE NO.: 129:29371a,29374a

TITLE:                    Effect of the peripherally selective  $\kappa$ -opioid agonist, asimadoline, on adjuvant arthritis

AUTHOR(S):                Binder, Waltraud; Walker, Judith S.

CORPORATE SOURCE:        School of Physiology and Pharmacology, University of New South Wales, Sydney, 2052, Australia

SOURCE:                  British Journal of Pharmacology (1998), 124(4), 647-654

CODEN: BJPCBM; ISSN: 0007-1188

PUBLISHER:                Stockton Press

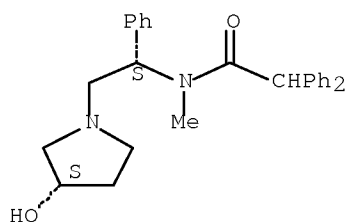
DOCUMENT TYPE:           Journal

LANGUAGE:                English

AB    Opioids, though widely used as analgesics, have not been seriously considered as therapy for rheumatoid arthritis. The present study evaluated the dose-effect and time-dependence relationships of a new peripherally selective  $\kappa$  agonist, asimadoline, in rats with adjuvant arthritis. The arthritis was assessed by a pooled severity index combining the comprehensive criteria of edema, radiog. and histol. changes, in the hind limbs. Asimadoline was extremely effective in attenuating joint damage (by up to 80%) when administered parenterally (0.5 to 10 mg kg<sup>-1</sup> day<sup>-1</sup>, i.p.) throughout the disease or during its early phase; treatment was less successful if confined to the latter stages. Ten fold higher doses were effective orally. Equimolar doses of a peripherally-selective antagonist, naloxone methiodide, and the  $\kappa$ -selective antagonist, MR2266, fully reversed the peripheral anti-arthritic effects of asimadoline (5 mg kg<sup>-1</sup> day<sup>-1</sup>), indicating that asimadoline acts through peripheral  $\kappa$ -opioid receptors. However, an equivalent dose of MR2266 did not fully reverse the anti-arthritic effects of the highest dose of asimadoline (40 mg kg<sup>-1</sup> day<sup>-1</sup>), suggesting a loss of  $\kappa$ -selectivity at this dose. Asimadoline also exhibited analgesic effects (mech. nociceptive thresholds) in arthritic but not non-arthritic rats, indicating that inflammation is necessary for asimadoline-induced analgesia. These data confirm our previous findings that  $\kappa$ -opioids possess anti-arthritic properties and that these effects are mediated via peripheral  $\kappa$ -receptors. The present results are new in showing that the peripherally acting  $\kappa$ -opioid agonist, asimadoline, is a potent anti-arthritic agent. Such novel drugs, essentially lacking central side effects, herald new treatments for rheumatoid arthritis.

IT 153205-46-0, Asimadoline  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (κ-opioid agonist asimadoline effect on adjuvant arthritis)  
 RN 153205-46-0 CAPLUS  
 CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidiny]]-1-phenylethyl]-N-methyl-α-phenyl- (CA INDEX NAME)

Absolute stereochemistry.



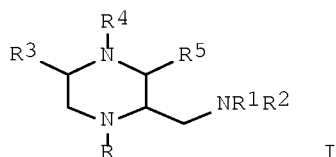
OS.CITING REF COUNT: 38 THERE ARE 38 CAPLUS RECORDS THAT CITE THIS RECORD (38 CITINGS)  
 REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 75 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1998:397785 CAPLUS Full-text  
 DOCUMENT NUMBER: 129:67799  
 ORIGINAL REFERENCE NO.: 129:14075a,14078a  
 TITLE: Preparation of 1,4-diacyl-2-(pyrrolidinomethyl)piperazines and analogs as kappa opioid receptor agonists  
 INVENTOR(S): Kruse, Lawrence I.; Chang, An-Chih; DeHaven-Hudkins, Diane L.; Farrar, John J.; Gaul, Forrest; Kumar, Virendra; Marella, Michael Anthony; Maycock, Alan L.; Zhang, Wei Yuan  
 PATENT ASSIGNEE(S): Adolor Corp., USA  
 SOURCE: U.S., 67 pp., Cont.-in-part of U. S. 5,688,955.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 8  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| US 5763445  | A    | 19980609 | US 1997-891833  | 19970714 |
| US 5646151  | A    | 19970708 | US 1996-612680  | 19960308 |
| US 5688955  | A    | 19971118 | US 1997-796078  | 19970205 |
| US 5981513  | A    | 19991109 | US 1998-45522   | 19980321 |
| CA 2289055  | A1   | 19990128 | CA 1998-2289055 | 19980619 |
| WO 9903468  | A1   | 19990128 | WO 1998-US12769 | 19980619 |
| W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GW, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LS, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,   |      |          |                 |          |

CM, GA, GN, ML, MR, NE, SN, TD, TG

|   |    |          |                 |             |
|---|----|----------|-----------------|-------------|
| AU 9879801  | A  | 19990210 | AU 1998-79801   | 19980619    |
| AU 725232   | B2 | 20001012 |                 |             |
| EP 998281   | A1 | 20000510 | EP 1998-930400  | 19980619    |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI |    |          |                 |             |
| BR 9810712  | A  | 20000905 | BR 1998-10712   | 19980619    |
| JP 2001510154   | T  | 20010731 | JP 2000-502767  | 19980619    |
| NZ 513889   | A  | 20010928 | NZ 1998-513889  | 19980619    |
| NZ 500439   | A  | 20011026 | NZ 1998-500439  | 19980619    |
| ZA 9806208  | A  | 19990125 | ZA 1998-6208    | 19980713    |
| US 6028063  | A  | 20000222 | US 1999-307517  | 19990507    |
| US 6180623  | B1 | 20010130 | US 1999-436057  | 19991108    |
| NO 9906352  | A  | 20000313 | NO 1999-6352    | 19991220    |
| US 20020042399  | A1 | 20020411 | US 2001-769450  | 20010126    |
| US 20030236248  | A1 | 20031225 | US 2003-455545  | 20030605    |
| US 7294647  | B2 | 20071113 |                 |             |
| US 20040220112  | A1 | 20041104 | US 2003-455687  | 20030605    |
| US 6960612  | B2 | 20051101 |                 |             |
| NO 2005004249   | A  | 20000313 | NO 2005-4249    | 20050914    |
| PRIORITY APPLN. INFO.:  |    |          |                 |             |
|   |    |          | US 1996-612680  | A2 19960308 |
|   |    |          | US 1997-796078  | A2 19970205 |
|   |    |          | US 1997-891833  | A3 19970714 |
|   |    |          | US 1998-45522   | A3 19980321 |
|   |    |          | WO 1998-US12769 | W 19980619  |
|   |    |          | US 1999-307517  | A3 19990507 |
|   |    |          | US 1999-436057  | A1 19991108 |
|   |    |          | US 2001-769450  | A3 20010126 |
| OTHER SOURCE(S): MARPAT 129:67799   |    |          |                 |             |
| GI  |    |          |                 |             |



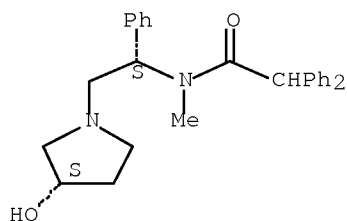
AB Title compds. [I; R = CO(CH<sub>2</sub>)<sub>n</sub>R<sub>6</sub>; R<sub>1</sub>, R<sub>2</sub> = Me; R<sub>1</sub>R<sub>2</sub> = (CH<sub>2</sub>)<sub>m</sub>, CH<sub>2</sub>CH(OH)CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>, etc.; R<sub>3</sub>, R<sub>5</sub> = CH<sub>2</sub>NHSO<sub>2</sub>Me, CH<sub>2</sub>NHP(O)(OH)<sub>2</sub>, CH<sub>2</sub>OP(O)(OH)<sub>2</sub>, etc.; R<sub>4</sub> = P(O)(OH)<sub>2</sub>, (CH<sub>2</sub>)<sub>p</sub>CO<sub>2</sub>H, CO<sub>2</sub>Me, etc.; R<sub>6</sub> = (un)substituted (hetero)aryl; m = 4-8; n = 1-3; p = 0-20] were prepared for treatment of pruritus. Thus, (R)-I (R = COCH<sub>2</sub>C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>-3,4, NR<sub>1</sub>R<sub>2</sub> = pyrrolidino, R<sub>3</sub> = R<sub>5</sub> = H, R<sub>4</sub> = SO<sub>2</sub>Me) was prepared. Data for biol. activity of I were given.

IT 153205-46-0  
 RL: PRPH (Prophetic)  
 (Preparation of 1,4-diacyl-2-(pyrrolidinomethyl)piperazines and analogs as kappa opioid receptor agonists)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



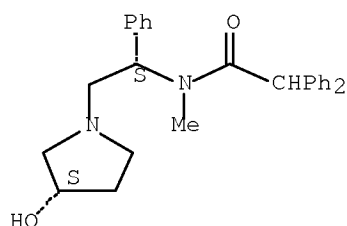
IT 185951-07-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of 1,4-diacetyl-2-(pyrrolidinomethyl)piperazines and analogs as kappa opioid receptor agonists)

RN 185951-07-9 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl-, hydrochloride (1:1) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

|                      |    |  |
|----------------------|----|--|
| OS.CITING REF COUNT: | 6  | THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD<br>(8 CITINGS)                                      |
| REFERENCE COUNT:     | 23 | THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS<br>RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT |

L50 ANSWER 76 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:319400 CAPLUS Full-text

DOCUMENT NUMBER: 129:62858

ORIGINAL REFERENCE NO.: 129:12885a,12888a

TITLE: Effects of kappa-opioid receptor agonists on responses to colorectal distension in rats with and without acute colonic inflammation

AUTHOR(S) : Burton, Maureen B.; Gebhart, G. F.

CORPORATE SOURCE: Department of Pharmacology, College of Medicine, The University of Iowa, Iowa City, IA, USA

SOURCE: Journal of Pharmacology and Experimental Therapeutics  
(1998), 285(2), 707-715

CODEN: JPETAB; ISSN: 0022-3565

PUBLISHER: Williams & Wilkins

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The objective of this study was to evaluate the effects of kappa-opioid receptor agonists on pressor and visceromotor responses to colorectal distension in awake, unrestrained rats, a model of visceral pain. Because

visceral pain can be enhanced in the presence of inflammation, the study was conducted in rats that had been given either intracolonic saline or 5% acetic acid 6 h before drug administration. We developed a method of staircase colorectal distension as a means of obtaining stimulus-response functions over a short period of time. Kappa-opioid receptor agonists, given i.v. in a cumulative dose paradigm, dose-dependently attenuated both the pressor and visceromotor responses to colorectal distension. In addition, all drugs tested also increased response threshold. The rank order of potency of the drugs tested was: C1977 > U69,593 > U50,488  $\geq$  morphine  $\geq$  EMD61,753 > ICI204,448. EDs of these drugs were antagonized by naloxone, but not by either of two kappa-opioid receptor-selective antagonists (nor-binaltorphimine and 2-(3,4-dichlorophenyl)-N-methyl-N-(1-[3-isothiocyanate phenyl]-2-[1-pyrrolidinyl]ethyl)-acetamide). Acute inflammation of the colon did not lead to changes in the potency of the agonists tested. The present results provide further evidence that kappa-opioid receptor agonists significantly attenuate visceral nociception and, in conjunction with other information, suggest that a peripherally restricted kappa-opioid receptor agonist would be therapeutically effective in relieving visceral pain.

IT 153205-46-0, EMD61753

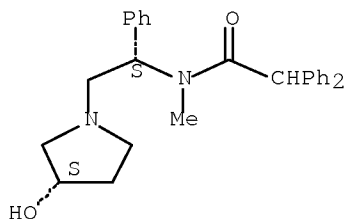
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(kappa-opioid receptor agonists significantly attenuate visceral nociception)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 50 THERE ARE 50 CAPLUS RECORDS THAT CITE THIS RECORD (50 CITINGS)

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 77 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:89564 CAPLUS Full-text

DOCUMENT NUMBER: 128:136113

ORIGINAL REFERENCE NO.: 128:26595a,26598a

TITLE: Brain concentrations of asimadoline in mice. The influence of coadministration of various P-glycoprotein substrates

AUTHOR(S): Bender, H. M.; Dasenbrock, J.

CORPORATE SOURCE: Inst. Pharmacokinetics Metabolism, Merck K.-G.a.A., Graefing, D-85567, Germany

SOURCE: International Journal of Clinical Pharmacology and Therapeutics (1998), 36(2), 76-79

CODEN: ICTHEK; ISSN: 0946-1965

PUBLISHER: Dustri-Verlag Dr. Karl Feistle

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The influence of the P-glycoprotein (Pgp) substrates digoxin, ondansetron, cyclosporin A, vinblastine, and dexamethasone on brain concns. of asimadoline, a peripherally selective  $\kappa$ -opioid agonist and Pgp substrate, was investigated in mice. Due to a plateau phase of brain concns. (radioactivity and parent drug) 15-30 min after administration, the time schedule above was chosen for coadministration of asimadoline and Pgp substrates. In the brain, concns. of parent drug and radioactivity showed no differences when coadministered with Pgp substrates. Thus, an influence of coadministered Pgp substrates on the brain concentration of asimadoline is unlikely.

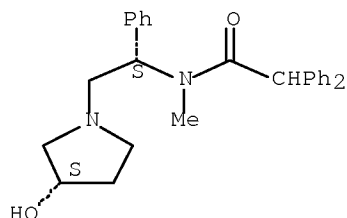
IT 153205-46-0, Asimadoline

RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses) (brain concns. of asimadoline in mice. The influence of coadministration of various P-glycoprotein substrates)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (9 CITINGS)

L50 ANSWER 78 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:752779 CAPLUS Full-text

DOCUMENT NUMBER: 128:34783

ORIGINAL REFERENCE NO.: 128:6857a,6860a

TITLE: Kappa agonist compounds (acylpiperazines and analogs) and pharmaceutical formulations thereof

INVENTOR(S): Kruse, Lawrence I.; Chang, An-chih; Dehaven-Hudkins, Diane L.; Farrar, John J.; Gaul, Forrest; Kumar, Virendra; Marella, Michael Anthony; Maycock, Alan L.; Zhang, Wei Yuan

PATENT ASSIGNEE(S): Adolor Corp., USA

SOURCE: U.S., 65 pp., Cont.-in-part of U.S. Ser. No. 612,680. CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

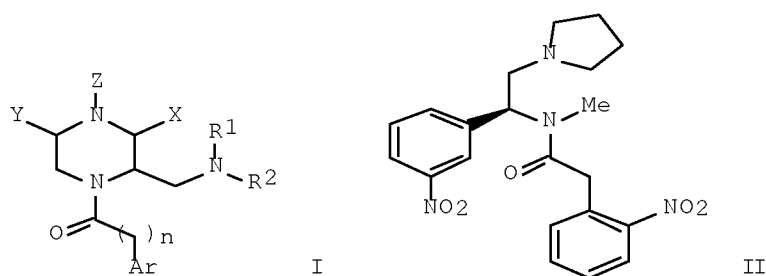
FAMILY ACC. NUM. COUNT: 8

PATENT INFORMATION:

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|------------|------|----------|-----------------|----------|
| US 5688955 | A    | 19971118 | US 1997-796078  | 19970205 |
| US 5646151 | A    | 19970708 | US 1996-612680  | 19960308 |
| CA 2240728 | A1   | 19970912 | CA 1997-2240728 | 19970301 |
| CA 2240728 | C    | 20051018 |                 |          |



|                        |                  |          |                |             |
|------------------------|------------------|----------|----------------|-------------|
| AU 9721954             | A                | 19970922 | AU 1997-21954  | 19970301    |
| AU 717126              | B2               | 20000316 |                |             |
| BR 9707958             | A                | 20000104 | BR 1997-7958   | 19970301    |
| JP 2002502362          | T                | 20020122 | JP 1997-531886 | 19970301    |
| JP 3522767             | B2               | 20040426 |                |             |
| US 5763445             | A                | 19980609 | US 1997-891833 | 19970714    |
| US 5744458             | A                | 19980428 | US 1997-899086 | 19970723    |
| US 5945443             | A                | 19990831 | US 1998-34661  | 19980303    |
| US 5981513             | A                | 19991109 | US 1998-45522  | 19980321    |
| NO 9804107             | A                | 19981109 | NO 1998-4107   | 19980907    |
| NO 313194              | B1               | 20020826 |                |             |
| US 6303611             | B1               | 20011016 | US 1998-150369 | 19980909    |
| US 6057323             | A                | 20000502 | US 1998-183011 | 19981030    |
| US 6028063             | A                | 20000222 | US 1999-307517 | 19990507    |
| US 6054445             | A                | 20000425 | US 1999-307387 | 19990507    |
| US 6239154             | B1               | 20010529 | US 1999-372191 | 19990811    |
| US 6180623             | B1               | 20010130 | US 1999-436057 | 19991108    |
| US 6391910             | B1               | 20020521 | US 2000-478482 | 20000106    |
| US 20020042399         | A1               | 20020411 | US 2001-769450 | 20010126    |
| US 20020013296         | A1               | 20020131 | US 2001-803957 | 20010313    |
| US 6486165             | B2               | 20021126 |                |             |
| US 20020103164         | A1               | 20020801 | US 2001-803976 | 20010313    |
| US 6476063             | B2               | 20021105 |                |             |
| US 6492351             | B1               | 20021210 | US 2001-803901 | 20010313    |
| NO 2001004219          | A                | 19981109 | NO 2001-4219   | 20010831    |
| NO 313633              | B1               | 20021104 |                |             |
| NO 2001004220          | A                | 19981109 | NO 2001-4220   | 20010831    |
| NO 313634              | B1               | 20021104 |                |             |
| US 38133               | E1               | 20030603 | US 2002-66909  | 20020204    |
| US 20030144272         | A1               | 20030731 | US 2002-146693 | 20020515    |
| US 6750216             | B2               | 20040615 |                |             |
| US 20030236248         | A1               | 20031225 | US 2003-455545 | 20030605    |
| US 7294647             | B2               | 20071113 |                |             |
| US 20040220112         | A1               | 20041104 | US 2003-455687 | 20030605    |
| US 6960612             | B2               | 20051101 |                |             |
| US 20050020576         | A1               | 20050127 | US 2004-807113 | 20040323    |
| PRIORITY APPLN. INFO.: |                  |          | US 1996-612680 | A2 19960308 |
|                        |                  |          | US 1997-796078 | A 19970205  |
|                        |                  |          | WO 1997-US3353 | W 19970301  |
|                        |                  |          | US 1997-891833 | A3 19970714 |
|                        |                  |          | US 1997-899086 | A3 19970723 |
|                        |                  |          | US 1998-34661  | A2 19980303 |
|                        |                  |          | US 1998-45522  | A3 19980321 |
|                        |                  |          | US 1998-150369 | A2 19980909 |
|                        |                  |          | US 1998-183011 | A3 19981030 |
|                        |                  |          | US 1999-307517 | A3 19990507 |
|                        |                  |          | US 1999-372191 | A3 19990811 |
|                        |                  |          | US 1999-436057 | A1 19991108 |
|                        |                  |          | US 2000-478482 | A2 20000106 |
|                        |                  |          | US 2001-769450 | A3 20010126 |
|                        |                  |          | US 2002-146693 | A1 20020515 |
| OTHER SOURCE(S):       | MARPAT 128:34783 |          |                |             |
| GI                     |                  |          |                |             |



AB Compds. having kappa opioid agonist activity, compns. containing them, and methods of using them as analgesics are provided. The compds. have 4 general structures, e.g., I [n = 1-3; R1 = R2 = Me; or NR1R2 forms various cyclic systems; Ar = (un)substituted Ph, benzothienyl, benzofuranyl, naphthyl, CHPh2, or 9-fluorenyl; Z = wide variety of sidechains; X, Y = various derivs. of CH2OH and CH2NH2]. A large number of compds., as HCl salts and/or free bases, were prepared, tested, and/or claimed. For instance, title compound II.HCl, i.e. ADL-01-0115-4, was prepared in 51% yield by amidation of 2-nitrophenylacetic acid with the corresponding secondary amine using DCC and pyridine in CH2Cl2. In tests for displacement of [3H]-diprenorphin or [3H]-U-69593 from kappa receptors in vitro, II.HCl had Ki values of 35 and 3.2 nM, resp.

IT 185951-07-9

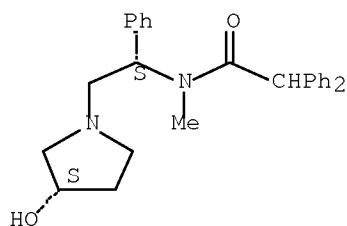
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(preparation of acylpiperazines and analogs as kappa agonists)

RN 185951-07-9 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl-, hydrochloride (1:1) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

OS.CITING REF COUNT: 54 THERE ARE 54 CAPLUS RECORDS THAT CITE THIS RECORD (54 CITINGS)  
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 79 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1997:706772 CAPLUS Full-text  
 DOCUMENT NUMBER: 128:18278  
 ORIGINAL REFERENCE NO.: 128:3435a,3438a

TITLE: Novel developments with selective, non-peptidic kappa-opioid receptor agonists  
 AUTHOR(S): Barber, Andrew; Gottschlich, Rudolf  
 CORPORATE SOURCE: Department of CNS Research, Preclinical Pharmaceutical Research, Merck KGaA, Darmstadt, 64271, Germany  
 SOURCE: Expert Opinion on Investigational Drugs (1997), 6(10), 1351-1368  
 CODEN: EOIDER; ISSN: 0967-8298  
 PUBLISHER: Ashley Publications  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: English

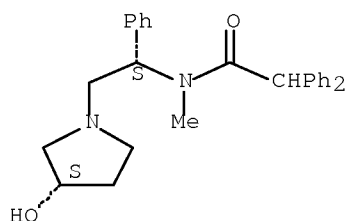
AB A review with 136 refs. Despite the recent introduction of a number of new compds., there has of late been a cooling of interest by pharmaceutical companies in the development of centrally-active, selective kappa opioid agonists for therapeutic purposes. This is reflected in the discontinuation of a number of clin. trials, for reasons that are often not completely clear to outside observers. Spiradoline and enadoline have apparently been abandoned as potential analgesics because they induce dose-limiting central side-effects (i.e., dysphoria) in models of post-surgical pain. The development of niravoline as an aquarectic for the treatment of cirrhosis with ascites and other hyponatremic disorders has also been halted. Enadoline may yet find some application against ischemic stroke and severe head injury, presumably in comatose patients in whom psychiatric side-effects are taken to be immaterial, while apadoline and TRK 820 remain in Phase II clin. testing against cancer pain. The peripherally-selective kappa agonists, asimadoline, and the atypical compound, fedotozine, are well-tolerated in man. Results of Phase III trials of fedotozine against irritable bowel syndrome and dyspepsia have, however, ultimately been disappointing, whereas asimadoline is currently in Phase II clin. trials against pain of rheumatic and osteoarthritic origin. The results of these trials are eagerly awaited.

IT 153205-46-0, Asimadoline  
 RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (novel developments with selective, non-peptidic kappa-opioid receptor agonists as analgesics)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 43 THERE ARE 43 CAPLUS RECORDS THAT CITE THIS RECORD (44 CITINGS)  
 REFERENCE COUNT: 137 THERE ARE 137 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 80 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1997:231063 CAPLUS Full-text

DOCUMENT NUMBER: 126:216665  
 ORIGINAL REFERENCE NO.: 126:41815a,41818a  
 TITLE: Thermostable form of EMD-61753  
 INVENTOR(S): Stein, Inge; Beeres, Holger; Beschmann, Klaus;  
 Neuenfeld, Steffen  
 PATENT ASSIGNEE(S): Merck Patent Gmbh, Germany  
 SOURCE: Ger. Offen., 5 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE        |
|---|------|----------|------------------|-------------|
| DE 19531464   | A1   | 19970227 | DE 1995-19531464 | 19950826    |
| EP 761650   | A1   | 19970312 | EP 1996-112489   | 19960802    |
| EP 761650   | B1   | 20011031 |                  |             |
| R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE |      |          |                  |             |
| AT 207895   | T    | 20011115 | AT 1996-112489   | 19960802    |
| ES 2165948  | T3   | 20020401 | ES 1996-112489   | 19960802    |
| CZ 287783   | B6   | 20010214 | CZ 1996-2434     | 19960816    |
| AU 9662149  | A    | 19970306 | AU 1996-62149    | 19960819    |
| AU 716615   | B2   | 20000302 |                  |             |
| IN 1996CA01481  | A    | 20050304 | IN 1996-CA1481   | 19960820    |
| JP 09110830   | A    | 19970428 | JP 1996-221296   | 19960822    |
| SK 282437   | B6   | 20020205 | SK 1996-1089     | 19960822    |
| CA 2184049  | A1   | 19970227 | CA 1996-2184049  | 19960823    |
| CA 2184049  | C    | 20071002 |                  |             |
| NO 9603526  | A    | 19970227 | NO 1996-3526     | 19960823    |
| NO 307048   | B1   | 20000131 |                  |             |
| ZA 9607200  | A    | 19970303 | ZA 1996-7200     | 19960823    |
| CN 1151986  | A    | 19970618 | CN 1996-111404   | 19960823    |
| CN 1081631  | C    | 20020327 |                  |             |
| BR 9603540  | A    | 19980512 | BR 1996-3540     | 19960823    |
| RU 2174976  | C2   | 20011020 | RU 1996-116925   | 19960823    |
| TW 513407   | B    | 20021211 | TW 1996-85110305 | 19960823    |
| PL 187691   | B1   | 20040930 | PL 1996-315799   | 19960823    |
| HU 9602346  | A2   | 19970929 | HU 1996-2346     | 19960826    |
| HU 9602346  | A3   | 19980128 |                  |             |
| HU 226667   | B1   | 20090629 |                  |             |
| US 6060504  | A    | 20000509 | US 1996-703350   | 19960826    |
| JP 2009046501   | A    | 20090305 | JP 2008-257423   | 20081002    |
| PRIORITY APPLN. INFO.:  |      |          | DE 1995-19531464 | A 19950826  |
|   |      |          | JP 1996-221296   | A3 19960822 |

OTHER SOURCE(S): CASREACT 126:216665

AB N-methyl-N-[(1S)-1-phenyl-2-[(3S)-3-hydroxypyrrolidin-1-yl]ethyl]-2,2-diphenylacetamide (EMD-61753), a  $\kappa$ -opioid antagonist for treatment of inflammatory bowel disease, hyperalgesia, burns, neurodermatitis, and rheumatic disorders, is prepared in a highly thermostable crystalline modification designated type IV (m. 220-225°) by condensation of 1-[(1S)-3-hydroxypyrrolidin-1-yl]-(2S)-2-methylamino-2-phenylethane with diphenylacetyl chloride at low temperature (preferably 0-8°). Type IV is also formed during prolonged storage of type II at 170°, or by rapid cooling of a melt of type II from >200° and storage at room temperature for 12-16 h. Prepsns. containing EMD-61753 type IV can be sterilized. Thus, suppositories were prepared from a melt of EMD-61753 20, soybean lecithin 100, and cocoa butter 1400 g.

IT 153205-46-OP, EMD-61753

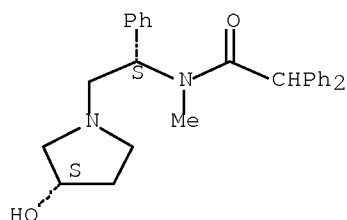
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)  
(thermostable form of EMD-61753)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidiny]-1-phenylethyl]-  
N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)

L50 ANSWER 81 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:97208 CAPLUS Full-text

DOCUMENT NUMBER: 126:108937

ORIGINAL REFERENCE NO.: 126:20967a, 20970a

TITLE: N-(pyrrolidinoethyl)arylacetamides as  $\kappa$ -opiate  
agonists for treatment of inflammatory bowel disease  
INVENTOR(S): Barber, Andrew; Seyfried, Christoph; Bartoszyk, Gerd;  
Gottschlich, Rudolf

PATENT ASSIGNEE(S): Merck Patent Gmbh, Germany

SOURCE: Ger. Offen., 7 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

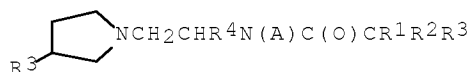
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE     |
|---|------|----------|------------------|----------|
| -----   | ---- | -----    | -----            | -----    |
| DE 19523502   | A1   | 19970102 | DE 1995-19523502 | 19950628 |
| EP 752246   | A2   | 19970108 | EP 1996-109915   | 19960620 |
| EP 752246   | A3   | 19970226 |                  |          |
| EP 752246   | B1   | 20020313 |                  |          |
| R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE |      |          |                  |          |
| AT 214275   | T    | 20020315 | AT 1996-109915   | 19960620 |
| ES 2171577  | T3   | 20020916 | ES 1996-109915   | 19960620 |
| IN 1996CA01158  | A    | 20050930 | IN 1996-CA1158   | 19960621 |
| AU 9656162  | A    | 19970109 | AU 1996-56162    | 19960624 |
| AU 708699   | B2   | 19990812 |                  |          |
| CZ 289805   | B6   | 20020417 | CZ 1996-1866     | 19960625 |
| CA 2179955  | A1   | 19961229 | CA 1996-2179955  | 19960626 |
| CA 2179955  | C    | 20081007 |                  |          |
| JP 09020659   | A    | 19970121 | JP 1996-165988   | 19960626 |
| RU 2190401  | C2   | 20021010 | RU 1996-112771   | 19960626 |
| NO 9602720  | A    | 19961230 | NO 1996-2720     | 19960627 |
| NO 309674   | B1   | 20010312 |                  |          |
| ZA 9605480  | A    | 19970127 | ZA 1996-5480     | 19960627 |
| CN 1145781  | A    | 19970326 | CN 1996-110142   | 19960627 |
| CN 1119147  | C    | 20030827 |                  |          |

|                        |                   |          |                  |             |
|------------------------|-------------------|----------|------------------|-------------|
| BR 9602915             | A                 | 19980422 | BR 1996-2915     | 19960627    |
| US 5776972             | A                 | 19980707 | US 1996-671502   | 19960627    |
| TW 430557              | B                 | 20010421 | TW 1996-85107762 | 19960627    |
| PL 185537              | B1                | 20030530 | PL 1996-314996   | 19960627    |
| SK 283497              | B6                | 20030805 | SK 1996-843      | 19960627    |
| HU 9601798             | A1                | 19980330 | HU 1996-1798     | 19960628    |
| US 5977161             | A                 | 19991102 | US 1998-27228    | 19980220    |
| JP 2008201794          | A                 | 20080904 | JP 2008-112917   | 20080423    |
| PRIORITY APPLN. INFO.: |                   |          | DE 1995-19523502 | A 19950628  |
|                        |                   |          | JP 1996-165988   | A3 19960626 |
|                        |                   |          | US 1996-671502   | A3 19960627 |
| OTHER SOURCE(S):       | MARPAT 126:108937 |          |                  |             |
| GI                     |                   |          |                  |             |



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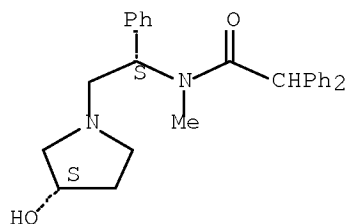
AB The title compds. [I; R1 = aryl, C3-7 cycloalkyl, C4-8 cycloalkylalkyl; R2 = aryl; R3 = H, OH, alkyl, alkoxy; R4 = alkyl, (substituted) Ph; R5 = OH, CH2OH; A = C1-7 alkyl] and their salts and glycosylated derivs. are useful in treatment of inflammatory bowel disease to relieve pain and restore normal bowel motility, as well as in treatment of ileus and neurodermitis. Thus, tablets containing 10 mg I were prepared from a mixture containing I 1, lactose 4, potato starch 1.2, talc 0.2, and Mg stearate 0.1 kg.

IT 185951-07-9 185951-07-9D, glycosylated derivs.  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (N-(pyrrolidinoethyl)arylacetamides as  $\kappa$ -opiate agonists for treatment of inflammatory bowel disease)

RN 185951-07-9 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl-, hydrochloride (1:1) (CA INDEX NAME)

Absolute stereochemistry.

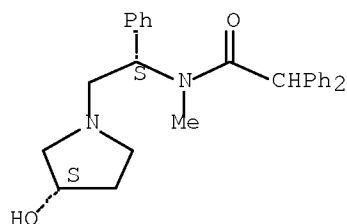


● HCl

RN 185951-07-9 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl-, hydrochloride (1:1) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD  
(7 CITINGS)

L50 ANSWER 82 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:411968 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 125:104282

ORIGINAL REFERENCE NO.: 125:19227a,19230a

TITLE: Search for the pharmacophore in kappa-agonistic  
diazabicyclo[3.3.1]nonan-9-one-1,5-diester and  
arylacetamides

AUTHOR(S): Brandt, Wolfgang; Drosihn, Susanne; Haurand, Michael;  
Holzgrave, Ulrike; Nachtsheim, Corina

CORPORATE SOURCE: Pharm. Inst., Univ. bonn, Bonn, 53115, Germany

SOURCE: Archiv der Pharmazie (Weinheim, Germany) (1996),  
329(6), 311-323

CODEN: ARPMAS; ISSN: 0365-6233

PUBLISHER: VCH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Several heterocyclic bicyclo[3.3.1]nonan-9-ones were found to have a high affinity to  $\kappa$  opioid receptors. 3,7-Diazabicyclononanones with 2,4-dipyridyl side chains were the most potent agonists whereas the corresponding 3-oxa-7-azabicyclo[3.3.1]nonan-9-one and compds. with Ph substituents in 2 and 4 position are almost inactive. The purpose of this study was to unravel the active conformation of the bicyclononanones using well-known  $\kappa$ -selective agonists such as ketocyclazocine, arylacetamides, several isoquinolines, CI-977, and four stereoisomers of EMD-61753 for comparison. In order to determine the geometry of the diazabicycles in solution pH-dependent NMR measurements of the bicycles were recorded and the results were related to the geometries of the aforementioned  $\kappa$  agonists obtained from semiempirical PM3 calcns. A chair-boat conformation and a protonation at the N7 nitrogen atom of the diazabicyclononanones were found to be the pharmacophoric conformation. Comparison of the spatial arrangements, electrostatic, hydrophobic, and hydrogen bonding potentials of all  $\kappa$ -selective agonists led to a model of structure-activity relationships of ligands of the  $\kappa$  receptor. The arrangement of the pharmacophoric elements is characterized by an almost parallel orientation of a carbonyl and a protonated NH function in conjunction with at least one aromatic ring. Ketocyclazocine is only able to adopt this parallel orientation when the nitrogen is inverted relative to the x-ray structure. Furthermore, two binding sites for the aromatic rings are discussed. The pharmacol. results of all considered bicyclononanone derivs. as well as of the four enantiomers of EMD-61753 can be understood and consistently explained in this way.

IT 153205-46-0, EMD-61753

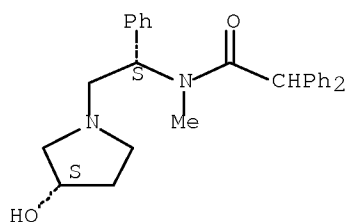
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(pharmacophore in  $\kappa$ -agonistic  
diazabicyclo[3.3.1]nonan-9-one-1,5-diester and arylacetamides)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidiny]-1-phenylethyl]-  
N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 21 THERE ARE 21 CAPLUS RECORDS THAT CITE THIS  
RECORD (21 CITINGS)

L50 ANSWER 83 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:51690 CAPLUS Full-text

DOCUMENT NUMBER: 124:193280

ORIGINAL REFERENCE NO.: 124:35427a,35430a

TITLE: The peripherally acting  $\kappa$ -opiate agonist EMD  
61753 and Analogs: opioid activity versus peripheral  
selectivity

AUTHOR(S): Gottschlich, R.; Barber, A.; Bartoszyk, G. D.;  
Seyfried, C. A.

CORPORATE SOURCE: Preclinical Pharmaceutical Research, E. Merck,  
Darmstadt, D-64271, Germany

SOURCE: Drugs under Experimental and Clinical Research (1995),  
21(5), 171-4

CODEN: DECRDP; ISSN: 0378-6501

PUBLISHER: Bioscience Ediprint

DOCUMENT TYPE: Journal

LANGUAGE: English

AB EMD 61753 (N-methyl-N-[(1S)-1-phenyl-2-((3S)-3-hydroxypyrrolidin-1-yl)-  
ethyl]2,2-diphenylacetamide hydrochloride) is a peripherally selective  $\kappa$ -  
opiate agonist. It exhibits antihyperalgesic activity in animal models of  
inflammatory pain at doses which do not cause signs of central action. The  
structure of this compound was varied in different ways and the resulting  
derivs. were tested for affinity to the  $\kappa$ -receptor. Furthermore, those compds.  
with binding values comparable to that of EMD 61753 were tested for central  
activity. This was done by measuring the extent to which the haloperidol-  
induced L-DOPA accumulation in the nucleus accumbens of the rat could be  
reversed after application of 10 mg/kg s.c. of the test compound. Structure-  
activity relationships revealed that none of the analogs or reference compds.  
tested is superior to the parent compound with regard to its favorable ratio  
between  $\kappa$ -receptor affinity and peripheral selectivity.

IT 153205-46-0D, EMD 61753, analogs

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

( $\kappa$ -opiate agonist EMD 61753 and analogs structure-related opioid

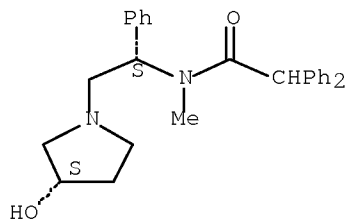


activity vs. peripheral selectivity)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-  
N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)

L50 ANSWER 84 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:293027 CAPLUS Full-text

DOCUMENT NUMBER: 122:177671

ORIGINAL REFERENCE NO.: 122:32297a

TITLE: K-opioid activity of the four stereoisomers of the  
peripherally selective  $\kappa$ -agonists, EMD 60 400  
and EMD 61 753

AUTHOR(S): Gottschlich, Rudolf; Krug, Michael; Barber, Andrew;  
Devant, Ralf M.

CORPORATE SOURCE: Dep. Medicinal Chem. Biological Res., E. Merck,  
Darmstadt, Germany

SOURCE: Chirality (1994), 6(8), 685-9  
CODEN: CHRLEP; ISSN: 0899-0042

PUBLISHER: Wiley-Liss

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The four stereoisomers of the two peripherally selective  $\kappa$ -opioid agonists EMD  
60 400 and EMD 61 753 were examined for affinity to the  $\kappa$  opioid receptor.  
The relationships between the configuration of these mols. and their biol.  
activity are discussed.

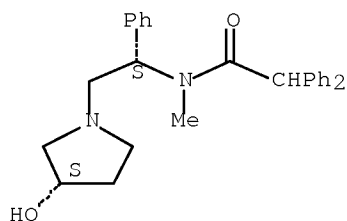
IT 153205-46-0

RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
study, unclassified); PRP (Properties); BIOL (Biological study)  
( $\kappa$ -opioid activity of stereoisomers of peripherally selective  
 $\kappa$ -agonists, EMD 60 400 and EMD 61 753)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-  
N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS  
RECORD (10 CITINGS)

L50 ANSWER 85 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:252056 CAPLUS Full-text

DOCUMENT NUMBER: 122:46289

ORIGINAL REFERENCE NO.: 122:8685a,8688a

TITLE: A pharmacological profile of the novel,  
peripherally-selective  $\kappa$ -opioid receptor  
agonist, EMD 61753

AUTHOR(S): Barber, A.; Bartoszyk, G. D.; Bender, H. M.;  
Gottschlich, R.; Greiner, H. G.; Harting, J.; Mauler,  
F.; Minck, K.-O.; Murray, R. D.; et al.

CORPORATE SOURCE: Preclinical Pharmaceutical Res., E. Merck, Darmstadt,  
64271, Germany

SOURCE: British Journal of Pharmacology (1994), 113(4),  
1317-27

CODEN: BJPCBM; ISSN: 0007-1188

PUBLISHER: Stockton

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The pharmacol. properties of the novel diacylacetamide  $\kappa$ -opioid receptor agonist, EMD 61753, have been compared with those of ICI 197067 (a centrally-acting  $\kappa$  agonist) and ICI 204448 (a peripherally-selective  $\kappa$  agonist). EMD 61753 binds with high affinity (IC<sub>50</sub> 5.6 nM) and selectivity ( $\kappa$ : $\mu$ : $\delta$ : $\sigma$  binding ratio 1:536:125:>1,786) to  $\kappa$ -opioid receptors and is a full and potent (IC<sub>50</sub> 54.5 nM) agonist in an in vitro assay for  $\kappa$ -opioid receptors (rabbit vas deferens preparation). Systemically-applied [<sup>14</sup>C]-EMD 61753 is found in high concns. in the lungs, liver, adrenal glands and kidneys. Considerably less radioactivity is detected in the whole brain, and this radioactivity is concentrated in the region of the cerebral ventricles in the choroid plexuses. EMD 61753 penetrates only poorly into the CNS. EMD 61753 was weakly effective in pharmacol. tests of central activity. This compound reversed haloperidol-induced DOPA accumulation in the nucleus accumbens of the rat only at a dose of 30 mg kg<sup>-1</sup>, s.c., (doses of 0.1, 1.0 and 10 mg kg<sup>-1</sup>, s.c., and 1.0, 10 and 100 mg kg<sup>-1</sup>, p.o., were inactive). Hexobarbitone-induced sleeping in mice was prolonged by EMD 61753 at threshold doses of 10 mg kg<sup>-1</sup>, s.c., and 100 mg kg<sup>-1</sup>, p.o., whereas the motor performance of rats in the rotorod test was impaired by EMD 61753 with an ID<sub>50</sub> value of 453 mg kg<sup>-1</sup>, s.c. EMD 61753 produced dose-dependent, naloxone-reversible, antinociception in the mouse formalin test (1st phase ID<sub>50</sub> 1.9 mg kg<sup>-1</sup>, s.c., and 10.4 mg kg<sup>-1</sup>, p.o.; 2nd phase ID<sub>50</sub> 0.26 mg kg<sup>-1</sup>, s.c., and 3.5 mg kg<sup>-1</sup>, p.o.) and rodent abdominal constriction test (ID<sub>50</sub> mouse 1.75 mg kg<sup>-1</sup>, s.c., and 8.4 mg kg<sup>-1</sup>, p.o.; ID<sub>50</sub> rat 3.2 mg kg<sup>-1</sup>, s.c., and 250 mg kg<sup>-1</sup>, p.o.). EMD 61753 was inactive, or only weakly effective, in the rat pressure test under normalgesic conditions. After the induction of hyperalgesia with carrageenin, however, this compound elicited potent, dose-dependent (ID<sub>50</sub> 0.08 mg kg<sup>-1</sup>, p.o., after prophylactic application) and naloxone-reversible antinociception. The antinociceptive

action of systemically-applied (50 mg kg<sup>-1</sup>, p.o.) EMD 61753 in the hyperalgesic pressure test was completely inhibited by injection of the  $\kappa$ -opioid antagonist nor-binaltorphimine (100  $\mu$ g) into the inflamed tissue, a result which indicates that this opioid effect is mediated peripherally. Cutaneous plasma protein extravasation produced by antidromic elec. stimulation of the rat saphenous nerve was dose-dependently inhibited by systemically-applied EMD 61753 (ID<sub>50</sub> values 3.7 mg kg<sup>-1</sup>, s.c., and 35.8 mg kg<sup>-1</sup>, p.o.), and this effect was completely antagonized by intraplantar application of norbinaltorphimine (50  $\mu$ g). Extravasation elicited by the intraplantar application of substance P (10  $\mu$ g) was not influenced by the administration of EMD 61753. EMD 61753 produced dose-dependent diuresis in non-hydrated rats at doses of and above 1.0 mg kg<sup>-1</sup>, s.c., and 10 mg kg<sup>-1</sup>, p.o., and in saline-loaded rats at doses of and above 10 mg kg<sup>-1</sup>, s.c., and 30 mg kg<sup>-1</sup>, p.o. The prostaglandin-mediated fall in mean arterial blood pressure elicited in anesthetized rats by i.v. application of arachidonic acid was not inhibited by prior treatment with EMD 61753 (10 mg kg<sup>-1</sup>, p.o.). Thus, a blockade of prostaglandin synthesis via inhibition of cyclo-oxygenase activity does not contribute to the in vivo effects of EMD 61753 and its metabolites. The present expts. therefore indicate that EMD 61753 is a potent, selective and orally-effective full  $\kappa$ -opioid receptor agonist which has a limited ability to penetrate the blood-brain barrier and elicit centrally-mediated sedation, putative aversion, diuresis, and antinociception. The inhibitory actions of systemically-applied EMD 61753 against hyperalgesic pressure nociception and neurogenic inflammation are mediated peripherally, probably by opioid receptors on the endings of sensory nerve fibers.

IT 153205-46-0, EMD 61753

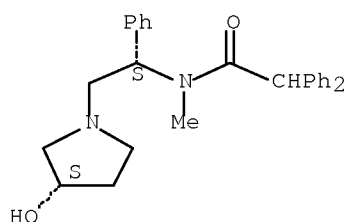
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(pharmacol. profile of novel, peripherally-selective  $\kappa$ -opioid receptor agonist, EMD 61753)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 59 THERE ARE 59 CAPLUS RECORDS THAT CITE THIS RECORD (59 CITINGS)

L50 ANSWER 86 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:473054 CAPLUS Full-text

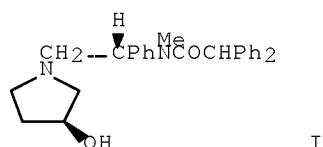
DOCUMENT NUMBER: 121:73054

ORIGINAL REFERENCE NO.: 121:12823a,12826a

TITLE: EMD 61753 as a favorable representative of structurally novel arylacetamido-type  $\kappa$  opiate receptor agonists

AUTHOR(S): Gottschlich, R.; Ackermann, K. A.; Barber, A.; Bartoszyk, G. D.; Greiner, H. E.

CORPORATE SOURCE: Med. Chem. Dep., E. Merck, Darmstadt, D-64271, Germany  
 SOURCE: Bioorganic & Medicinal Chemistry Letters (1994), 4(5),  
 677-82  
 CODEN: BMCLE8; ISSN: 0960-894X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB  $\kappa$  Opiate agonists like (-)-U50488H, (-)-PD 117302, etc., contain an acetamido group which is monosubstituted in the  $\alpha$ -position by an aromatic moiety. In contrast, EMD 61753 (I) is disubstituted in this position by two Ph rings and is thus the first representative of the new class of diarylacetamide-type  $\kappa$  opiates. Derivs. of EMD 61753 are described and structure-activity relationships are discussed. In the formalin test in mice EMD 61753 shows a profile similar to that of the anti-inflammatory drugs rather than that of the centrally acting opiates.

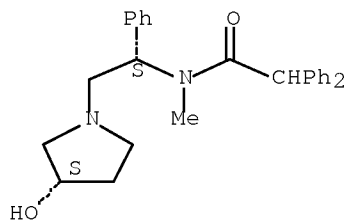
IT 153205-46-0P, EMD 61753

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and  $\kappa$ -opiate agonist activity of)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-  
 N-methyl- $\alpha$ -phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS  
 RECORD (11 CITINGS)

L50 ANSWER 87 OF 87 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:163969 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 120:163969

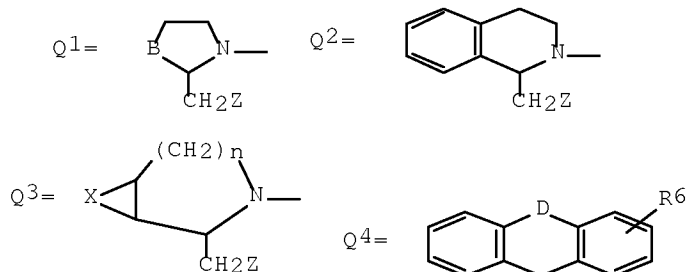
ORIGINAL REFERENCE NO.: 120:28923a, 28926a

TITLE: Preparation of (pyrrolidinoalkyl)arylacetamides as  
 analgesics and neuroprotectants with high affinity for  
 $\kappa$ -ligands.

INVENTOR(S): Gottschlich, Rudolf; Ackermann, Karl August; Pruecher,  
 Helmut; Seyfried, Christoph; Greiner, Hartmut;  
 Bartoszyk, Gerd; Mauler, Frank; Stohrer, Manfred;

Barber, Andrew  
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany  
 SOURCE: Ger. Offen., 14 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND              | DATE     | APPLICATION NO. | DATE        |
|---|-------------------|----------|-----------------|-------------|
| DE 4215213  | A1                | 19931111 | DE 1992-4215213 | 19920509    |
| EP 569802   | A1                | 19931118 | EP 1993-107103  | 19930501    |
| EP 569802   | B1                | 19980715 |                 |             |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE |                   |          |                 |             |
| AT 168368   | T                 | 19980815 | AT 1993-107103  | 19930501    |
| ES 2121030  | T3                | 19981116 | ES 1993-107103  | 19930501    |
| AU 9338341  | A                 | 19931111 | AU 1993-38341   | 19930503    |
| AU 662051   | B2                | 19950817 |                 |             |
| CZ 289961   | B6                | 20020515 | CZ 1993-823     | 19930505    |
| RU 2125041  | C1                | 19990120 | RU 1993-4806    | 19930506    |
| CA 2095797  | A1                | 19931110 | CA 1993-2095797 | 19930507    |
| CA 2095797  | C                 | 20070918 |                 |             |
| NO 9301681  | A                 | 19931110 | NO 1993-1681    | 19930507    |
| NO 179789   | B                 | 19960909 |                 |             |
| NO 179789   | C                 | 19961218 |                 |             |
| ZA 9303222  | A                 | 19931208 | ZA 1993-3222    | 19930507    |
| HU 70172  | A2                | 19950928 | HU 1993-1325    | 19930507    |
| HU 214578   | B                 | 19980428 |                 |             |
| PL 173779   | B1                | 19980430 | PL 1993-298845  | 19930507    |
| CN 1079219  | A                 | 19931208 | CN 1993-105673  | 19930508    |
| CN 1041087  | C                 | 19981209 |                 |             |
| JP 06049022   | A                 | 19940222 | JP 1993-108444  | 19930510    |
| JP 3210771  | B2                | 20010917 |                 |             |
| SK 282646   | B6                | 20021008 | SK 1993-468     | 19930512    |
| US 5532266  | A                 | 19960702 | US 1995-453811  | 19950530    |
| PRIORITY APPLN. INFO.:  |                   |          | DE 1992-4215213 | A 19920509  |
|   |                   |          | US 1993-57801   | B1 19930507 |
| OTHER SOURCE(S):  | MARPAT 120:163969 |          |                 |             |
| GI  |                   |          |                 |             |



AB QCOCR1R2R3 [Q = R4CH(CH2Z)NA, Q1-Q3; R1 = aryl, cycloalkyl, cycloalkylalkyl; R2 = aryl; or R1R2 = Q4; R3 = H, OH, alkoxy, alkyl; R4 = alkyl, (substituted) Ph; R5, R6 = H, F, Cl, Br, iodo, OH, alkoxy, CF3, amino, ureido, NO2, methylenedioxy, etc; B = CH2, O, imino, bond; X = (substituted) condensed ring

system; D = CH<sub>2</sub>, O, S, imino, CH<sub>2</sub>CH<sub>2</sub>, CH:CH, CH<sub>2</sub>O, bond, etc.; Z = (substituted) 1-pyrrolidinyl; n = 1, 2], were prepared as analgesics and neuroprotectants with a high affinity for κ-receptors (no data). Thus, diphenylacetyl chloride and (1S)-[1-N-methylamino-1-phenyl-2-[(3S)-3-hydroxypyrrolidino]]ethane were stirred in THF to give N-Me N-[(1S)-1-phenyl-2-[(3S)-3-hydroxypyrrolidino]ethyl]-2-diphenylacetamide. Dosage formulations were prepared containing several specific compds. of the invention.

IT 153205-46-0P

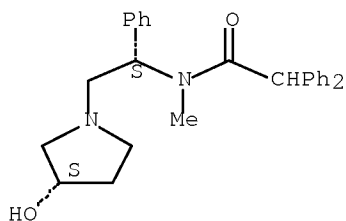
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, as analgesic and neuroprotectant with high κ-receptor affinity)

RN 153205-46-0 CAPLUS

CN Benzeneacetamide, N-[(1S)-2-[(3S)-3-hydroxy-1-pyrrolidinyl]-1-phenylethyl]-N-methyl-α-phenyl- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

## STRUCTURE SEARCH PART 4

=> fil reg; d que 143

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DICTIONARY FILE UPDATES: 28 JUL 2009 HIGHEST RN 1169929-67-2

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<http://www.cas.org/support/stngen/stndoc/properties.html>

L43                    14 SEA FILE=REGISTRY SPE=ON    ABB=ON    67198-13-4 OR    67198-13-4/CRN

=> d que 152

L52                    1 SEA FILE=REGISTRY SPE=ON    ABB=ON    153205-46-0

=> fil capl; d que 153

FILE 'CAPLUS' ENTERED AT 08:11:17 ON 30 JUL 2009

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FILE COVERS 1907 - 30 Jul 2009    VOL 151 ISS 5

FILE LAST UPDATED: 29 Jul 2009    (20090729/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

CAplus now includes complete International Patent Classification (IPC)

reclassification data for the second quarter of 2009.

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The ALL, BIB, MAX, and STD display formats in the CA/CAPLUS family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 22.

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L51 1 SEA FILE=REGISTRY SPE=ON ABB=ON 67198-13-4  
L53 539 SEA FILE=CAPLUS SPE=ON ABB=ON L51

=> d ibib abs hitstr 153 530-539 10 OLDEST REFERENCES TO EXACT COMPOUND PROVIDED

L53 ANSWER 530 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:581 CAPLUS Full-text

DOCUMENT NUMBER: 100:581

ORIGINAL REFERENCE NO.: 100:99a,102a

TITLE: The action of  $\kappa$ -agonists on the nociceptive responses of neurons in the medullary dorsal horn of the anesthetized rat

AUTHOR(S): Calthrop, J.; Hill, R. G.

CORPORATE SOURCE: Med. Sch., Univ. Bristol, Bristol, BS8 1TD, UK

SOURCE: Life Sciences (1983), 33(Suppl. 1), 541-4

CODEN: LIFSAK; ISSN: 0024-3205

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Responses of medullary dorsal horn neurons to both mech. and thermal noxious stimuli were recorded in urethane-anesthetized rats. Opiates with reported activity at  $\kappa$ -receptors (tifluadom [83386-35-0], BL 5572M [69815-39-0], and U50488 [67198-13-4]) reduced responses to both noxious stimuli, and in this respect, were indistinguishable from the  $\mu$ -agonist fentanyl citrate [990-73-8]. These observations are in contrast to the behavioral antinociceptive effects of  $\kappa$  agonists as these substances are active in tests using mech. noxious stimuli, whereas they have little effect in tests with thermal stimuli. It is therefore possible that the modality decoding seen in behavioral expts. occurs at a supraspinal level.

IT 67198-13-4

RL: BIOL (Biological study)

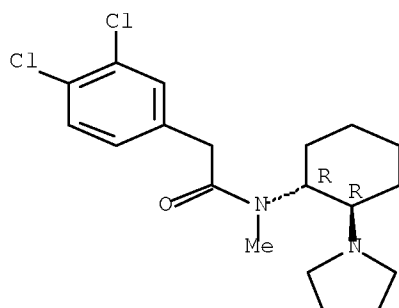
(nociceptive response of spinal cord neuron in relation to)

RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.





L53 ANSWER 531 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:569 CAPLUS Full-text

DOCUMENT NUMBER: 100:569

ORIGINAL REFERENCE NO.: 100:95a,98a

TITLE: Opiate receptors in the rat vas deferens

AUTHOR(S): Smith, Colin F. C.; Rance, Michael J.

CORPORATE SOURCE: Reckitt and Colman Pharm. Div., Hull, HU8 7DS, UK

SOURCE: Life Sciences (1983), 33(Suppl. 1), 327-30

CODEN: LIFSAK; ISSN: 0024-3205

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The nature of the opiate receptor population in the rat vas deferens (RVD) was examined by evaluating the interaction of a range of antagonists with prototypic  $\mu$ -,  $\kappa$ - and  $\alpha$ -opioid agonists in the tissue. Ke Values for 5 antagonists against normorphine [466-97-7] in the isolated mouse vas deferens showed excellent correlation with Ke values obtained against the  $\mu$ -agonist RX783030 [72080-55-8] in the RVD. RX783030 could be effectively antagonized by naltrexone [16590-41-3] in the RVD but not by the  $\alpha$ -antagonist ICI 154129 [83420-94-4] whereas D-Ala<sup>2</sup>,D-Leu<sup>5</sup>-enkephalin [63631-40-3] required both antagonists to yield parallel shifts of its dose response. The lack of agonist activity of morphine [57-27-2] is a result of the low intrinsic activity of this agent in the RVD. The  $\kappa$ -agonists ethylketocyclazocine [36292-66-7], tifluadom [83386-35-0] and U50488 [67198-13-4] also showed antagonist properties in the RVD. These results can be rationalized by postulating that the RVD contains a  $\mu$ -receptor population with a high intrinsic activity requirement together with some d-receptors. It is not necessary to propose the existence of a novel  $\delta$ -receptor in order to rationalize the data reported.

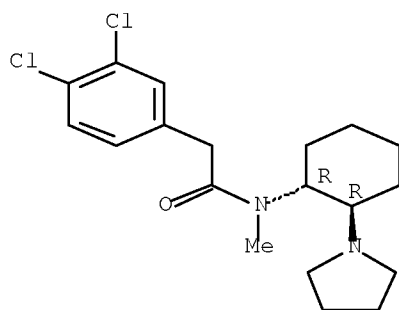
IT 67198-13-4

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
(opiate receptors of vas deferens response to)

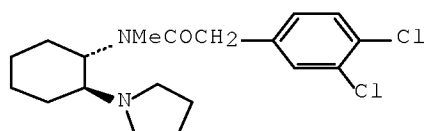
RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



L53 ANSWER 532 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1983:119517 CAPLUS Full-text  
 DOCUMENT NUMBER: 98:119517  
 ORIGINAL REFERENCE NO.: 98:18061a,18064a  
 TITLE: U-50,488: a selective and structurally novel non-mu (kappa) opioid agonist  
 AUTHOR(S): Vonvoigtlander, P. F.; Lahti, R. A.; Ludens, J. H.  
 CORPORATE SOURCE: Upjohn Co., Kalamazoo, MI, 49001, USA  
 SOURCE: Journal of Pharmacology and Experimental Therapeutics (1983), 224(1), 7-12  
 CODEN: JPETAB; ISSN: 0022-3565  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI

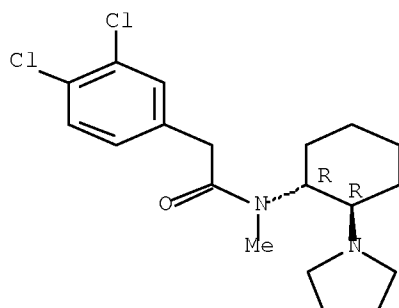


I

AB U-50,488 (I) [67198-13-4] displays analgesic actions in a variety (thermal, pressure and irritant) of assays in mice and rats. Naloxone and MR-2266 block this analgesic effect; thus it is mediated by opioid receptors. However, when compared to morphine analgesia, the naloxone and MR-2266 pA<sub>2</sub> values for U-50,488 analgesia were much lower and higher, resp. Likewise, although tolerance occurs to both morphine and U-50,488 analgesia, there was no cross-tolerance between these drugs, and U-50,488 does not cause morphine-type phys. dependence. Apparently, different opioid receptors mediate the analgesic effects of morphine and U-50,488. The effects of U-50,488 appear to be mediated by the so-called  $\kappa$  opioid receptor. In contrast to U-50,488, other reputed  $\kappa$  opioid agonists displayed varying degrees of  $\mu$  agonist (ketazocine and ethylketocyclazocine) and narcotic antagonist (bremazocine) activities. Thus, U-50,488 is a more selective  $\kappa$  agonist. This conclusion is further supported by binding studies; of all compds. tested, U-50,488 displacement of [3H]ethylketocyclazocine binding was uniquely not blocked by high concns. of dihydromorphine. In addition to analgesia, this selective  $\kappa$  agonist also causes opioid receptor-mediated sedation, diuresis and corticosteroid elevations. U-50,488 is a useful tool for studying contrasting  $\kappa$  and  $\mu$  opioid receptor-mediated effects.

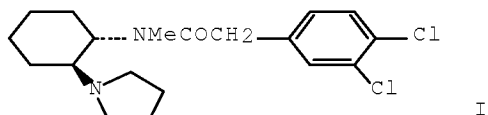
IT 67198-13-4  
 RL: BIOL (Biological study)  
 (as  $\kappa$ -opioid agonist)  
 RN 67198-13-4 CAPLUS  
 CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 121 THERE ARE 121 CAPLUS RECORDS THAT CITE THIS RECORD (121 CITINGS)

L53 ANSWER 533 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1983:101112 CAPLUS Full-text  
 DOCUMENT NUMBER: 98:101112  
 ORIGINAL REFERENCE NO.: 98:15277a,15280a  
 TITLE: U-50,488, a selective kappa opioid agonist: comparison to other reputed kappa agonists  
 AUTHOR(S): Von Voigtlander, Philip F.; Lewis, Richard A.  
 CORPORATE SOURCE: Upjohn Co., Kalamazoo, MI, 49001, USA  
 SOURCE: Progress in Neuro-Psychopharmacology & Biological Psychiatry (1982), 6(4-6), 467-70  
 CODEN: PNPPD7; ISSN: 0278-5846  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB U-50488 [trans-3,4-Dichloro-N-methyl-N-(2-(1-pyrrolidinyl)cyclohexyl)benzeneacetamide] (I) [67198-13-4] a structurally novel, non- $\mu$  opioid, was compared to the reputed kappa opioid agonists, ketazocine, ethylketocyclazocine and bremazocine with respect to analgesic cross tolerance to morphine and U-50488; antagonism of analgesia by naloxone and MR-2266 (in vivo pA<sub>2</sub> determination); and narcotic antagonist properties (antagonism of morphine analgesia and precipitation of abstinence in morphine-dependent mice). The analgesic mechanism of bremazocine was similar to that of U-50488 but the former compound had, in addition, considerable  $\mu$ -antagonist activity. The analgesic mechanisms of the ketazocines were less

selective; both shared both mu and kappa agonist properties. U-50488, however, had no such mu agonist or antagonist effects and thus is a more selective kappa agonist. Thus, U-50488 and its congeners may prove useful in the elucidation of the functions of kappa receptors in the central nervous system.

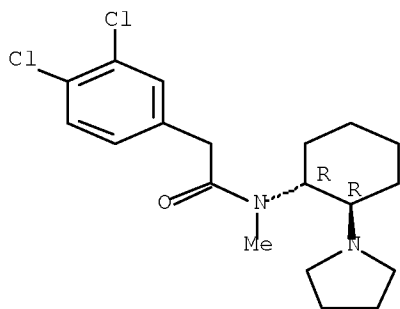
IT 67198-13-4

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
(kappa opioid agonist activity of)

RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

L53 ANSWER 534 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:100755 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 98:100755

ORIGINAL REFERENCE NO.: 98:15192h,15193a

TITLE: Compounds of novel structure having kappa-agonist behavioral effects in rhesus monkeys

AUTHOR(S): Katz, Jonathan L.; Woods, James H.; Winger, Gail D.; Jacobson, Arthur E.

CORPORATE SOURCE: Dep. Pharmacol., Univ. Michigan, Ann Arbor, MI, 48109, USA

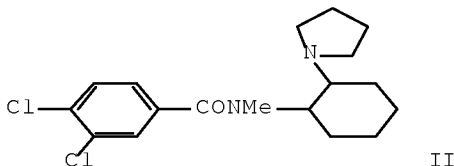
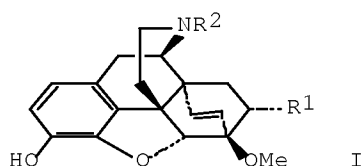
SOURCE: Life Sciences (1982), 31(20-21), 2375-8

CODEN: LIFSAK; ISSN: 0024-3205

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB The bridged oripavines I, where R1 = COH(Me)(CH<sub>2</sub>)<sub>2</sub>CH<sub>3</sub> and R2 = cyclopropylmethyl (UM 928 [16527-99-4]) or allyl (UM 736 [23758-80-7]) and R1 = COH(Me)(CH<sub>2</sub>)<sub>2</sub>CHMe<sub>2</sub> with R2 = cyclopropylmethyl (UM 715 [16614-46-3]), the 2 benzomorphans UM 1246 [71884-78-1] and UM 1250 [84774-03-8], and a compound with a structure not resembling any known narcotic, U 50,488 (II) [67198-13-4], all produced ethylketazocine-like discriminative effects in rhesus monkeys. The N-Me analogs (UM 495 [14521-96-1] and UM 499 [14186-98-2]) of the bridged oripavines tested did not produce ethylketazocine-like discriminative effects, but were quite potent in reversing withdrawal symptoms in morphine-dependent monkeys. With the exception of UM 1250, compds. that produced ethylketazocine-like discriminative effects did not suppress withdrawal symptoms, but rather produced a sedative effect.

IT 67198-13-4

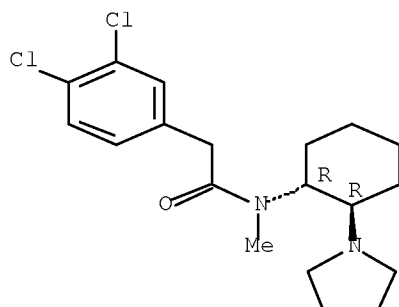
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(κ-agonistic activity of)

RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L53 ANSWER 535 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:574902 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 97:174902

ORIGINAL REFERENCE NO.: 97:29031a,29034a

TITLE: U-50488H, a pure kappa receptor agonist with spinal analgesic loci in the mouse

AUTHOR(S): Piercey, M. F.; Lahti, R. A.; Schroeder, L. A.; Einspahr, F. J.; Barsuhn, C.

CORPORATE SOURCE: Upjohn Co., Kalamazoo, MI, 49001, USA

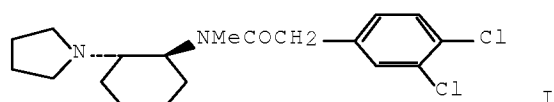
SOURCE: Life Sciences (1982), 31(12-13), 1197-200

CODEN: LIFSAK; ISSN: 0024-3205

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB U-50488H (I) is a chemical novel analgesic that is a potent opioid-like agent on the mouse tail flick and elec. stimulated guinea pig ileum tests. U-50488H is a very weak competitor for naloxone binding sites in brain and ileum. However, the drug has high affinity for  $\kappa$  receptor binding sites revealed by competition for ethylketocyclazocine sites in the presence of dihydromorphine. Morphine has both supraspinal and spinal sites of action since it was a potent analgesic after both intracranial and intraspinal injections. However, U-50488H works predominantly at the spinal level. Dynorphin may be an endogenous ligand at this site. Studies on cat dorsal horn neurons suggest that U-50488H analgesia may be due to an increase in threshold for neuron excitation.

IT 67198-13-4

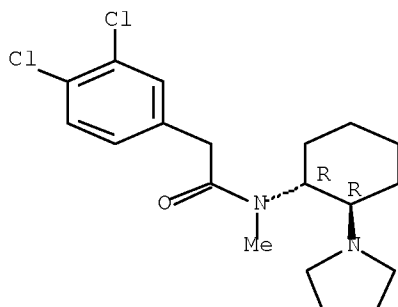
RL: BIOL (Biological study)

(analgesia from and  $\kappa$ -agonist activity of, spinal site in relation to)

RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

L53 ANSWER 536 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:520118 CAPLUS Full-text

DOCUMENT NUMBER: 97:120118

ORIGINAL REFERENCE NO.: 97:19781a,19784a

TITLE: Benzeneacetamide amines: structurally novel non- $\mu$  opioids

AUTHOR(S): Szmuszkovicz, Jacob; Von Voigtlander, Philip F.

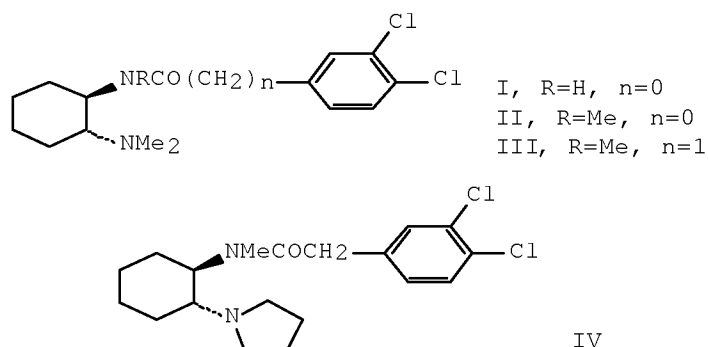
CORPORATE SOURCE: Res. Lab., Upjohn Co., Kalamazoo, MI, 49001, USA

SOURCE: Journal of Medicinal Chemistry (1982), 25(10), 1125-6  
CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB Two benzamide amines I [67579-13-9] and II [82657-23-6] and two benzeneacetamide amines III [67197-92-6] and IV [67198-13-4] were synthesized and tested for opioid receptor-mediated pharmacol. activity. I and II had morphine-like behavioral and analgesic activity. In contrast, IV and, to a lesser extent, III had opioid receptor-mediated (naloxone-blocked) analgesic activity, but no behavioral activity. Apparently, the observed activity of IV is due to its non- $\mu$  ( $\kappa$ ) opioid receptor agonist activity. Structure-activity relations are discussed.

IT 67198-13-4P

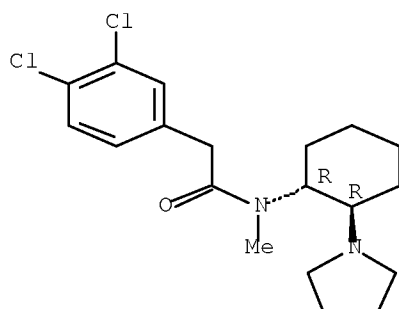
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and non- $\mu$  opioid receptor-mediated pharmacol. of, structure in relation to)

RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 52 THERE ARE 52 CAPLUS RECORDS THAT CITE THIS RECORD (52 CITINGS)

L53 ANSWER 537 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:504137 CAPLUS Full-text

DOCUMENT NUMBER: 97:104137

ORIGINAL REFERENCE NO.: 97:17183a,17186a

TITLE: Opiate effects on plasma corticosteroids: relationship to dysphoria and self-administration

AUTHOR(S): Lahti, R. A.; Collins, R. J.

CORPORATE SOURCE: CNS Dis. Res., Upjohn Co., Kalamazoo, MI, 49001, USA

SOURCE: Pharmacology, Biochemistry and Behavior (1982), 17(1),

107-9

CODEN: PBBHAU; ISSN: 0091-3057

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Narcotic analgesics administered i.p. to rats raised the concentration of plasma corticosteroids. This effect appears to be a response of the rat to the dysphoric properties of the drug. nalorphine [62-67-9] Or cyclazocine [3572-80-3] which caused dysphoria in man elevate plasma corticosteroids in the rat at relatively low doses. Drugs like morphine [57-27-2] or pentazocine [359-83-1] which induced little dysphoria in man elevate plasma corticosteroids in the rat only at much larger doses. The corticosteroid-elevating effect is mediated by an opiate receptor since naloxone antagonizes the effect of morphine or the analgesic, U-50, 488 [ 67198-13-4]. Those narcotic analgesics which increased corticosteroid levels at low doses were also found to be poorly self-administered at high rates, elevated corticosteroids only after large doses. The relationship between the dose of a drug which causes elevations in corticosteroid levels and whether or not the drug is self-administered further supports the premise that elevated corticosteroid levels induced by analgesics is due to their dysphoric properties.

IT 67198-13-4

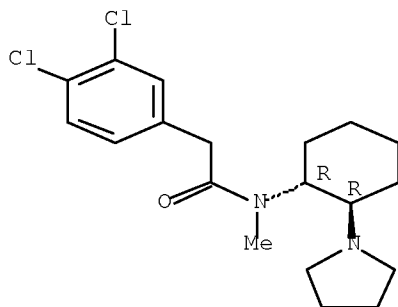
RL: BIOL (Biological study)

(corticosteroids of blood plasma response to, dysphoria and self-administration behavior in relation to)

RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



L53 ANSWER 538 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:439003 CAPLUS Full-text

DOCUMENT NUMBER: 91:39003

ORIGINAL REFERENCE NO.: 91:6357a,6360a

TITLE: N-Acyl-1,2-cyclohexanediamines

INVENTOR(S): Szmuszkovicz, Jacob

PATENT ASSIGNEE(S): Upjohn Co., USA

SOURCE: U.S., 25 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

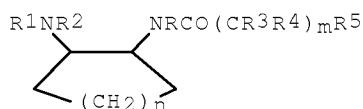
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|



|                        |        |          |                 |            |
|------------------------|--------|----------|-----------------|------------|
| US 4145435             | A      | 19790320 | US 1976-741354  | 19761112   |
| CA 1072958             | A1     | 19800304 | CA 1977-287468  | 19770926   |
| ZA 7706241             | A      | 19780726 | ZA 1977-6241    | 19771019   |
| AU 7729881             | A      | 19790426 | AU 1977-29881   | 19771020   |
| AU 510133              | B2     | 19800612 |                 |            |
| NL 7711998             | A      | 19780517 | NL 1977-11998   | 19771101   |
| DE 2749950             | A1     | 19780518 | DE 1977-2749950 | 19771108   |
| DE 2749950             | C2     | 19880225 |                 |            |
| CH 638777              | A5     | 19831014 | CH 1977-13623   | 19771108   |
| BE 860726              | A1     | 19780510 | BE 1977-182548  | 19771110   |
| JP 53063351            | A      | 19780606 | JP 1977-135227  | 19771110   |
| JP 01014231            | B      | 19890310 |                 |            |
| FR 2370723             | A1     | 19780609 | FR 1977-33971   | 19771110   |
| FR 2370723             | B1     | 19800822 |                 |            |
| GB 1569225             | A      | 19800611 | GB 1977-46746   | 19771110   |
| JP 61233654            | A      | 19861017 | JP 1986-94401   | 19860423   |
| JP 62059101            | B      | 19871209 |                 |            |
| JP 61243053            | A      | 19861029 | JP 1986-94399   | 19860423   |
| JP 62059100            | B      | 19871209 |                 |            |
| JP 61243054            | A      | 19861029 | JP 1986-94400   | 19860423   |
| JP 62059103            | B      | 19871209 |                 |            |
| PRIORITY APPLN. INFO.: |        |          | US 1976-741354  | A 19761112 |
| OTHER SOURCE(S):       | MARPAT | 91:39003 |                 |            |
| GI                     |        |          |                 |            |



I

AB Diamines trans-I [n = 2,3,4; R = C1-3 alkyl; R1 and R2 are alkyl, CH<sub>2</sub>CF<sub>3</sub>, 2-alken-1-yl, hydroxyalkyl, cycloalkyl, cycloalkylmethyl, phenylalkyl, or NR<sub>1</sub>R<sub>2</sub> = saturated heterocycle; R<sub>3</sub> and R<sub>4</sub> are H or Me, or R<sub>3</sub>R<sub>4</sub> = CH<sub>2</sub>CH<sub>2</sub>; m = 1,2,3,4; R<sub>5</sub> = 1- or 2-naphthyl, (trifluoromethyl)-, alkyl-, alkoxy-, azido-, or phenylphenyl], useful as analgesics and antitussives (no data), were prepared by N-acylation. The reaction of trans-N,N,N'-trimethyl-1,2-cyclohexanediamine with 4-BrC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>H and N,N'-carbonyldiimidazole in THF gave trans-N,N,N'-trimethyl-N'-(4-bromophenylacetyl)-1,2-cyclohexanediamine.

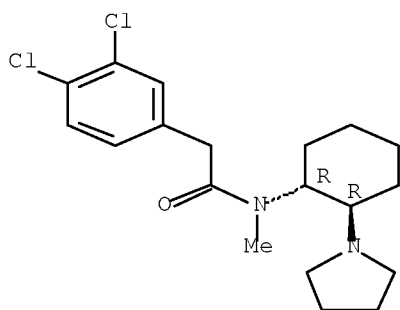
IT 67198-13-4F

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 67198-13-4 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 29 THERE ARE 29 CAPLUS RECORDS THAT CITE THIS RECORD (29 CITINGS)

L53 ANSWER 539 OF 539 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1978:546631 CAPLUS Full-text

DOCUMENT NUMBER: 89:146631

ORIGINAL REFERENCE NO.: 89:22713a,22716a

TITLE: Arylacylamide derivatives

INVENTOR(S): Szmuszkowicz, Jacob

PATENT ASSIGNEE(S): Upjohn Co., USA

SOURCE: Ger. Offen., 105 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

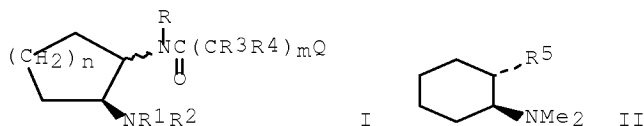
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE       |
|------------------------|------|----------|-----------------|------------|
| -----                  | ---- | -----    | -----           | -----      |
| DE 2749950             | A1   | 19780518 | DE 1977-2749950 | 19771108   |
| DE 2749950             | C2   | 19880225 |                 |            |
| US 4145435             | A    | 19790320 | US 1976-741354  | 19761112   |
| PRIORITY APPLN. INFO.: |      |          | US 1976-741354  | A 19761112 |

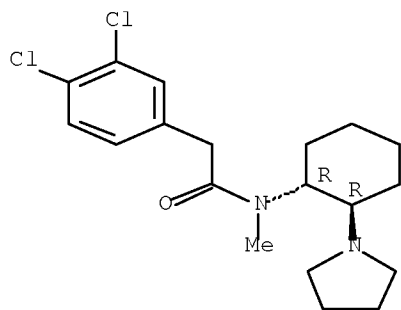
GI



AB Thirty-eight arylacylamides I (R = H, C1-3 alkyl; R1, R2 = H, C1-6 aliphatic, C3-6 cycloalkyl, phenylalkyl; NR1R2 = N1-2 heterocyclyl; R3, R4 = H, Me; CR3R4 = cyclopropyl; m = 1-4; m = 1-8; Q = naphthyl, substituted phenyl) and their pharmaceutically acceptable salts, useful as analgesics, were prepared by 11 methods. Thus, aminolysis of 7-azabicyclo[4.1.0]heptane with aqueous Me2NH gave 46% cyclohexanediamine II (R5 = NH2) which was formylated with HCO2Et to give 85% formamide II (R5 = NHCHO). This was reduced with LiAlH4 to give 82% II (R5 = NHMe) which was acylated carbonyldiimidazole and 4-BrC6H4CH2CO2H and the mixture stirred 18 h to give 78% II (R5 = NMeCOCH2C6H4Br-4), characterized as the HCl salt. Typical I had ED50 <75mg/kg s.c. in standard analgesic tests; the more effective I had ED50 <10 mg/kg s.c. in standard tests while showing ED50 <100 mg/kg s.c. in the naxolone spring test.

IT 67198-13-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 67198-13-4 CAPLUS  
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel- (CA INDEX NAME)

Relative stereochemistry.



## STRUCTURE SEARCH PART 5

=&gt; d que 149

L43 14 SEA FILE=REGISTRY SPE=ON ABB=ON 67198-13-4 OR 67198-13-4/CRN

L49 1545 SEA FILE=CAPLUS SPE=ON ABB=ON L43

=&gt; s 149 not 153

L57 1006 L49 NOT L53 10 OLDEST REFERENCES TO SALTS

=&gt; d ibib abs hitstr 157 997-1006

L57 ANSWER 997 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:96573 CAPLUS Full-text

DOCUMENT NUMBER: 100:96573

ORIGINAL REFERENCE NO.: 100:14529a,14532a

TITLE: In vivo studies on spinal opiate receptor systems mediating antinociception. II. Pharmacological profiles suggesting a differential association of mu, delta and kappa receptors with visceral chemical and cutaneous thermal stimuli in the rat

AUTHOR(S): Schmauss, Claudia; Yaksh, Tony L.

CORPORATE SOURCE: Dep. Neurosurgical Res., Mayo Clin., Rochester, MN, 55905, USA

SOURCE: Journal of Pharmacology and Experimental Therapeutics (1984), 228(1), 1-12

CODEN: JPETAB; ISSN: 0022-3565

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The intrathecal administration of  $\mu$  (morphine [57-27-2]) and  $\delta$  (D-Ala2-D-Leu5-enkephalin [63631-40-3]) but not  $\kappa$  agonists (ethylketocyclazocine [36292-66-7], bremazocine [75684-07-0], and U50488H [83913-06-8]) or partial agonists (nalbuphine [20594-83-6] and buprenorphine [52485-79-7]) produced a dose-dependent inhibition of all cutaneous thermal (hot plate and tail-flick) responses in the rat. In contrast, on visceral chemical tests (writhing),  $\mu$  and  $\kappa$  agonists but not  $\delta$  agonists exerted a powerful suppression of the response. Whereas the ED50 of morphine on the cutaneous thermal tests did not differ from that observed on the visceral chemical test, agents with significant  $\mu$  and  $\delta$  activity (metkephamid [66960-34-7] and  $\beta$ -endorphin [60617-12-1]) showed a prominent reduction in activity on the writhing as compared with the hot plate and tailflick. Systemic naloxone [465-65-6] resulted in a dose-dependent antagonism of the effect of all intrathecal agents. Estimation of the pA2 of  $\mu$  agents indicated no difference on the hot plate/tail-flick and writhing (pA2 approx. 7).  $\kappa$  Ligands were selectively resistant to antagonism with naloxone pA2 values for those agonists ranging from 5.9 to 6.6. Apparently, there are 3 discriminable populations of receptors in the spinal cord whose activation results in a selective modulation of the response of the animal to noxious stimuli. In addition, the selective effects of the  $\delta$  agonists on cutaneous thermal and  $\kappa$  agonists on visceral chemical stimuli suggest a differential coding of spinal afferents through which these stimuli are transmitted.

IT 83913-06-8

RL: BIOL (Biological study)

(opiate receptor of spinal cord in antinociception in relation to)

RN 83913-06-8 CAPLUS

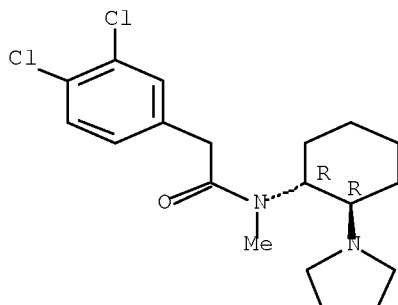
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

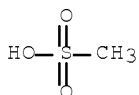
Relative stereochemistry.



CM 2

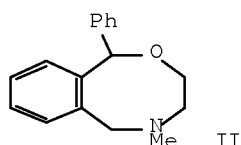
CRN 75-75-2

CMF C H4 O3 S



OS.CITING REF COUNT: 61 THERE ARE 61 CAPLUS RECORDS THAT CITE THIS RECORD (61 CITINGS)

L57 ANSWER 998 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1984:96538 CAPLUS Full-text  
 DOCUMENT NUMBER: 100:96538  
 ORIGINAL REFERENCE NO.: 100:14521a,14524a  
 TITLE: Involvement of biogenic amines with the mechanisms of novel analgesics  
 AUTHOR(S): Vonvoigtlander, Philip F.; Lewis, Richard A.; Neff, Gary L.; Triezenberg, Herman J.  
 CORPORATE SOURCE: Upjohn Co., Kalamazoo, MI, 49001, USA  
 SOURCE: Progress in Neuro-Psychopharmacology & Biological Psychiatry (1983), 7(4-6), 651-6  
 CODEN: PNPPD7; ISSN: 0278-5846  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB The analgesic activity of the  $\kappa$ -opioid agonist, U-50,488H (I) [ 83913-06-8] was markedly antagonized by pretreatment with reserpine, p-chlorophenylalanine, and ketanserin. Since analgesic doses of U-50,488H enhance serotonin metabolism, these results suggest that  $\kappa$ -analgesia requires serotonin acting through 5-HT<sub>2</sub> receptors. The nonopioid analgesic nefopam (II) [13669-70-0], though a blocker of biogenic amine uptake, displays an analgesic spectrum of action more similar to that of amphetamine than to that of the tricyclic antidepressants or serotonin-uptake blockers. p-Chlorophenylalanine and ketanserin do not block nefopam analgesia, nor do naloxone, atropine, yohimbine, propranolol, or haloperidol. However, as reserpine does block nefopam analgesia, biogenic amines acting at other receptors may be involved. The observation that m-tyrosine [775-06-4] causes behavioral effects similar to high doses of nefopam suggested that they might be acting through similar mechanisms. However, although m-tyrosine causes analgesia, it is blocked by yohimbine. This suggests that  $\alpha_2$ -adrenoreceptors are involved in m-tyrosine analgesia and that it differs in mechanism from nefopam analgesia.

IT 83913-06-8

RL: BIOL (Biological study)

(analgesia from, biogenic amines in relation to)

RN 83913-06-8 CAPLUS

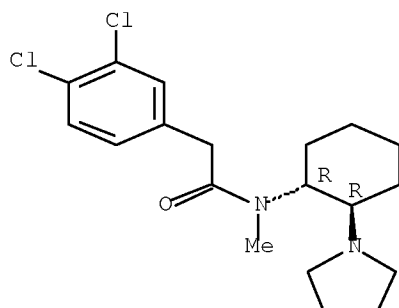
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

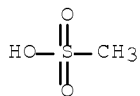
Relative stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD  
(5 CITINGS)

L57 ANSWER 999 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1984:61632 CAPLUS Full-text  
DOCUMENT NUMBER: 100:61632  
ORIGINAL REFERENCE NO.: 100:9285a,9288a  
TITLE: Further study of kappa opioids on increased urination  
AUTHOR(S): Leander, J. David  
CORPORATE SOURCE: Lilly Res. Lab., Eli Lilly and Co., Indianapolis, IN,  
46285, USA  
SOURCE: Journal of Pharmacology and Experimental Therapeutics  
(1983), 227(1), 35-41  
CODEN: JPETAB; ISSN: 0022-3565  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The effects of various opioid agonists and antagonists on urination were studied in the normally hydrated rat. Two  $\kappa$  agonists, U-50488H [83913-06-8] and proxorphan tartrate [69815-39-0], markedly increased urination. The increased urination produced by U-50,488H was antagonized by opioid antagonists in a potency order which indicated that the effects were due to an action at  $\kappa$  opioid receptors.  $\mu$  Agonists decreased urination and were blocked by low doses (0.01 and 0.1 mg/kg) of naloxone [465-65-6], whereas  $\kappa$  agonists increased urination and were only blocked by a high dose (10 mg/kg) of naloxone. The diuretic effects of U-50,488H and ketazocine [36292-69-0], but not proxorphan and bremazocine [75684-07-0], were reduced by morphine [57-27-2], consistent with the idea that proxorphan and bremazocine have morphine antagonist activity. Water deprivation produced a shift to the right for the dose-effect curve for bremazocine-induced diuresis.  $\kappa$  Agonists were ineffective in increasing urination in Brattleboro rats that were homozygous for diabetes insipidus, whereas  $\mu$  agonists were still effective in decreasing urination. Apparently,  $\kappa$  agonists inhibit release of vasopressin [11000-17-2] from the neurohypophysis and this decrease in vasopressin release leads to increased urination. The effects of opioids on urination in the normally hydrated rat can be extremely useful in classifying the activities of opioid on  $\mu$  and  $\kappa$  receptors in vivo.

IT 83913-06-8

RL: BIOL (Biological study)  
(diuresis from, opiate receptor subtypes in relation to)

RN 83913-06-8 CAPLUS

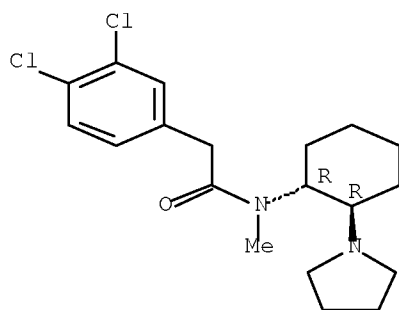
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

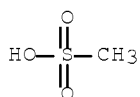
Relative stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

L57 ANSWER 1000 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:17578 CAPLUS Full-text

DOCUMENT NUMBER: 100:17578

ORIGINAL REFERENCE NO.: 100:2675a,2678a

TITLE: Hyperalgesic effect of the selective kappa opioid agonist, U-50488H in mice

AUTHOR(S): Ramabadran, Krishnaswami

CORPORATE SOURCE: Fac. Med., Natl. Univ. Singapore, Singapore, 0511, Singapore

SOURCE: Japanese Journal of Pharmacology (1983), 33(6), 1289-92

CODEN: JJPAAZ; ISSN: 0021-5198

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Comparative expts. in mice, using the 2 putative  $\kappa$ -agonists U-50488H (I) [83913-06-8] and (-)-bremazocine (II) [75684-07-0], showed that both could produce hyperalgesia in the hot-plate test, but differed in their ability to antagonize morphine-induced antinociception. II completely antagonized the morphine action, whereas I did not, suggesting that II has strong  $\mu$ -antagonist properties as well as  $\kappa$ -agonist ones. I appears to be a more selective  $\kappa$ -agonist and may be useful as a pharmacol. tool for evaluating and contrasting  $\kappa$ - and  $\mu$ -opioid receptor-mediated effects.

IT 83913-06-8

RL: PRP (Properties)

(hyperalgesic effect of,  $\kappa$ -opioid receptors in relation to)

RN 83913-06-8 CAPLUS

CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

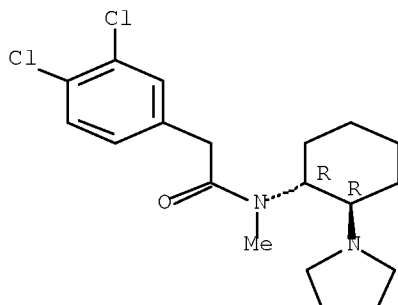


CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

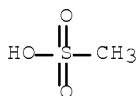
Relative stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



L57 ANSWER 1001 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:1004 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 100:1004

ORIGINAL REFERENCE NO.: 100:171a,174a

TITLE: Differential association of spinal  $\mu$ ,  $\delta$  and  $\kappa$  opioid receptors with cutaneous thermal and visceral chemical nociceptive stimuli in the rat

AUTHOR(S): Schmauss, C.; Yaksh, T. L.; Shimohigashi, Y.; Harty, G.; Jensen, T.; Rodbard, D.

CORPORATE SOURCE: Mayo Clin., Rochester, MN, USA

SOURCE: Life Sciences (1983), 33(Suppl. 1), 653-6  
CODEN: LIFSAK; ISSN: 0024-3205

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The intrathecal administration of  $\mu$ - (morphine [57-27-2]),  $\delta$ - ([D-Ala2,D-Leu5]-enkephalin [63631-40-3], and dimeric leucine-enkephalin [82221-89-4]), and the mixed  $\mu/\delta$ - ( $\beta$ -endorphin [60617-12-1]) agonists dose-dependently inhibited all cutaneous thermal (tail flick/hot plate) nociceptive responses in the rat. The  $\kappa$ -agonist U50488H [83913-06-8] had no analgesic potency in thermal nociceptive tests. In the visceral chemical test (writhing),  $\beta$ -endorphin, morphine, and U50488H exerted a powerful suppression of the response. In contrast at doses 10-50 times the ED50 on cutaneous thermal

tests, the  $\delta$ -agonist had no effect on the writhing response. At higher intrathecal doses,  $\delta$  ligands produced flaccidity. The existence of 3 discriminable populations of opioid receptors in the spinal cord whose activation has different effects on the animal's response to noxious stimuli is indicated.

IT 83913-06-8

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(analgesic activity of, in spinal cord, opiate receptor subtypes in relation to)

RN 83913-06-8 CAPLUS

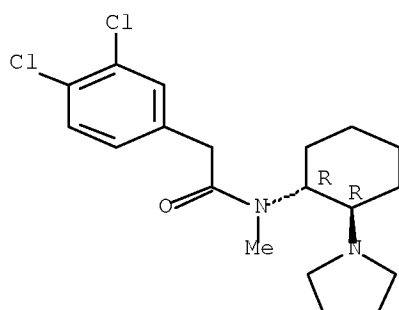
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

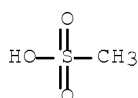
Relative stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L57 ANSWER 1002 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:588496 CAPLUS Full-text

DOCUMENT NUMBER: 99:188496

ORIGINAL REFERENCE NO.: 99:28866h,28867a

TITLE: Simultaneous differentiation of three opiate receptor subpopulations by computer modeling

AUTHOR(S): Maurer, R.; Engel, G.

CORPORATE SOURCE: Preclin. Res., Sandoz Ltd., Basel, CH-4002, Switz.  
 SOURCE: Journal of Receptor Research (1983), 3(1-2), 219-25  
 CODEN: JRERDM; ISSN: 0197-5110  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB [3H]-(-)-bremazocine was displaced from guinea pig brain membrane homogenates by 3 compds. having different specificities to opiate receptor subpopulations. A 3-site receptor model showed the best fit of the calculated to the measured value for the  $\mu$ -receptor specific compound [D-Ala2,MePhe4,Gly(ol)5]-enkephalin [78123-71-4] and the  $\delta$ -receptor specific compound [D-Ala2,D-Leu5]-enkephalin [63631-40-3]. Computer modeling of data from displacement curves with the  $\kappa$ -receptor specific compound U-50,488H [83913-06-8] favored a 2-site receptor model.

IT 83913-06-8

RL: BIOL (Biological study)  
 (opiate receptor binding of, in brain, computer modeling in)

RN 83913-06-8 CAPLUS

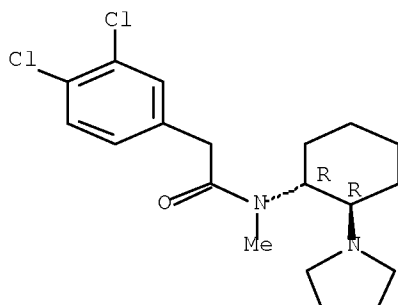
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

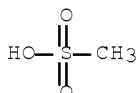
Relative stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



L57 ANSWER 1003 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1983:533543 CAPLUS Full-text  
 DOCUMENT NUMBER: 99:133543

ORIGINAL REFERENCE NO.: 99:20397a,20400a  
 TITLE: Multiple opiate receptor affinities of kappa and  
 agonist/antagonist analgesics: in vivo assessment  
 AUTHOR(S): Wood, Paul L.; Sanschagrin, D.; Richard, J. W.;  
 Thakur, M.  
 CORPORATE SOURCE: Douglas Hosp. Res. Cent., Verdun, QC, H4H 1R3, Can.  
 SOURCE: Journal of Pharmacology and Experimental Therapeutics  
 (1983), 226(2), 545-50  
 CODEN: JPETAB; ISSN: 0022-3565  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The affinities of  $\kappa$  and agonist/antagonist (Ag/Ant) analgesics for mu and delta opiate receptors were examined in vivo in the rat. In the case of  $\kappa$  agonists, these agents appear to be  $\mu$  and  $\delta$  antagonists in vivo. The  $\mu$  antagonist activity appears to involve a specific isoreceptor population, namely  $\mu$ -2 receptors. With Ag/Ant analgesics, a more complex pharmacol. is evident such that at  $\mu$  and  $\delta$  receptor populations these agents can exhibit pure Ag, pure Ant or a combination of Ag and Ant actions. These activities vary with the neuronal localization of the receptor population being examined. In addition, complex species differences are evident with Ag/Ant actions.

IT 83913-06-8

RL: PRP (Properties)  
 (multiple opiate receptor affinity of)

RN 83913-06-8 CAPLUS

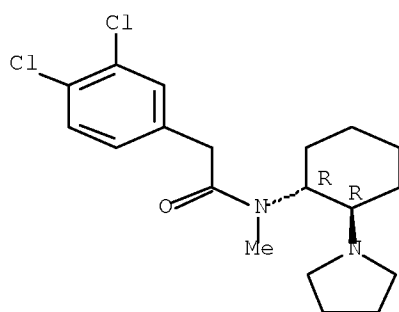
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

CMF C19 H26 Cl2 N2 O

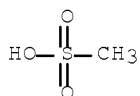
Relative stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



L57 ANSWER 1004 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:11355 CAPLUS Full-text

DOCUMENT NUMBER: 98:11355

ORIGINAL REFERENCE NO.: 98:1773a,1776a

TITLE: Properties of a selective kappa agonist, U-50,488H

AUTHOR(S): Lahti, R. A.; VonVoigtlander, P. F.; Barsuhn, C.

CORPORATE SOURCE: Upjohn Co., Kalamazoo, MI, 49001, USA

SOURCE: Life Sciences (1982), 31(20-21), 2257-60  
CODEN: LIFSAK; ISSN: 0024-3205

DOCUMENT TYPE: Journal

LANGUAGE: English

AB U-50488H (I) [83913-06-8] was shown to be a naloxone-antagonizable analgesic in rodents. However, the dose of naloxone needed for antagonism was higher than it was for morphine. I did not produce phys. dependence; however it did produce tolerance upon chronic administration. I was cross tolerant with bremazocine but not with morphine. Monkeys trained to discriminate ethylketocyclazocine (EKC) from saline showed a complete generalization to I but not to morphine. The evaluation of I in 3H-EKC site-selective binding indicated that it has a high affinity for the  $\kappa$  receptor and a low affinity for the  $\mu$  receptor. I appears to be a selective inhibitor of opioid  $\kappa$  receptors.

IT 83913-06-8

RL: BIOL (Biological study)

( $\kappa$ -opioid receptor agonist, pharmacol. of)

RN 83913-06-8 CAPLUS

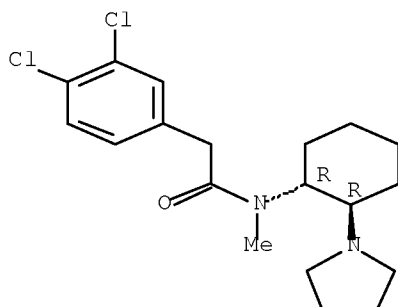
CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[(1R,2R)-2-(1-pyrrolidinyl)cyclohexyl]-, rel-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 67198-13-4

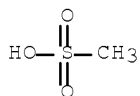
CMF C19 H26 Cl2 N2 O

Relative stereochemistry.



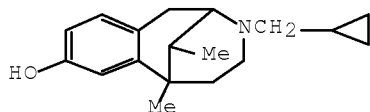
CM 2

CRN 75-75-2  
CMF C H4 O3 S



OS.CITING REF COUNT: 42 THERE ARE 42 CAPLUS RECORDS THAT CITE THIS RECORD (42 CITINGS)

L57 ANSWER 1005 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1981:150270 CAPLUS Full-text  
 DOCUMENT NUMBER: 94:150270  
 ORIGINAL REFERENCE NO.: 94:24447a,24450a  
 TITLE: Generalization study with some narcotic and nonnarcotic psychoactive drugs in rats trained to discriminate between cyclazocine and saline  
 AUTHOR(S): McCarten, Michael D.; Lal, Harbans  
 CORPORATE SOURCE: Dep. Pharmacol. Toxicol., Univ. Rhode Island, Kingston, RI, 02881, USA  
 SOURCE: Endog. Exog. Opiate Agonists Antagonists, Proc. Int. Narc. Res. Club Conf. (1980), Meeting Date 1979, 439-42. Editor(s): Way, E. Leong. Pergamon: Elmsford, N. Y.  
 CODEN: 45EWA5  
 DOCUMENT TYPE: Conference  
 LANGUAGE: English  
 GI



I

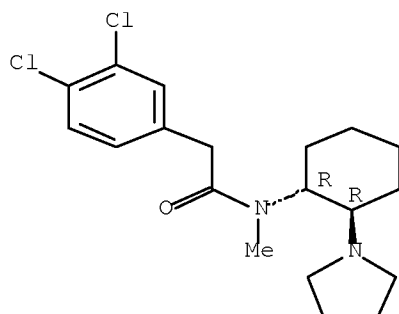
AB In an operant behavior procedure of lever pressing on an FR10 schedule of food reinforcement, male rats were trained to respond on a lever on 1 side of the food cup following a cyclazocine (I) [3572-80-3] (1.25 mg/kg) injection and to respond on a lever on the alternate side following a saline injection. The trained rats selected the cyclazocine lever in a dose-dependent manner based entirely upon the interoceptive stimuli produced by cyclazocine. The stimuli generalized completely to ethylketocyclazocine [36292-66-7], morphine [57-27-2] and nalorphine [62-67-9], only partially to pentazocine [359-83-1], and none to aceperone [807-31-8], amphetamine [300-62-9], amitriptyline [50-48-6], apomorphine [58-00-4], benperidol [2062-84-2], dl-butacclamol [51152-91-1], chlorpromazine [50-53-3], clonidine [4205-90-7], clozapine [5786-21-0], desipramine [50-47-5], dexclamol [52340-25-7], haloperidol [52-86-8], oxiperomide [5322-53-2], and pipamperone [1893-33-0].

IT 67197-96-0

RL: BIOL (Biological study)  
 (behavior response to cyclazocine generalization to)

RN 67197-96-0 CAPLUS  
 CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[2-(1-pyrrolidinyl)cyclohexyl]-, monohydrochloride, trans- (9CI) (CA INDEX NAME)

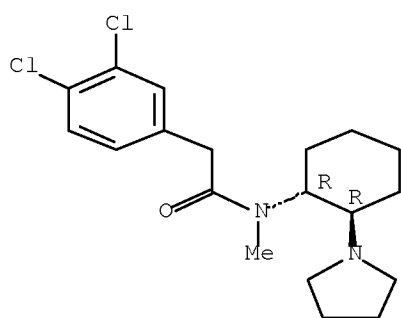
Relative stereochemistry.



● HCl

L57 ANSWER 1006 OF 1006 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1980:488589 CAPLUS Full-text  
 DOCUMENT NUMBER: 93:88589  
 ORIGINAL REFERENCE NO.: 93:14047a,14050a  
 TITLE: Annual report: dependence studies of new compounds in the rhesus monkey (1979)  
 AUTHOR(S): Aceto, M. D.; Harris, L. S.; Dewey, W. L.; May, E. L.  
 CORPORATE SOURCE: Med. Coll. Virginia, Virginia Commonw. Univ., Richmond, VA, 23298, USA  
 SOURCE: NIDA Research Monograph (1979), 27(Probl. Drug Depend.), 330-50  
 CODEN: MIDAD4; ISSN: 0361-8595  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Tail-flick agonist, morphine antagonist, phenylquinone, hot plate, and Nilsen tests were used to provide a preliminary estimate of the potency and profile of activity for 32 compds. in monkeys. Most of the compds. did not substitute or only partially substituted for morphine. Several, such as looperamide [53179-11-6], 8 $\beta$ -methyldihydrocodeinone-HCl [71968-06-4], and 3,6-dideoxydihydromorphine-HCl [69663-46-3] substituted completely for morphine; the 1st 2 appeared to be as potent as morphine.  
 IT 67197-96-0  
 RL: BIOL (Biological study)  
 (dependence liability of)  
 RN 67197-96-0 CAPLUS  
 CN Benzeneacetamide, 3,4-dichloro-N-methyl-N-[2-(1-pyrrolidinyl)cyclohexyl]-, monohydrochloride, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● HCl

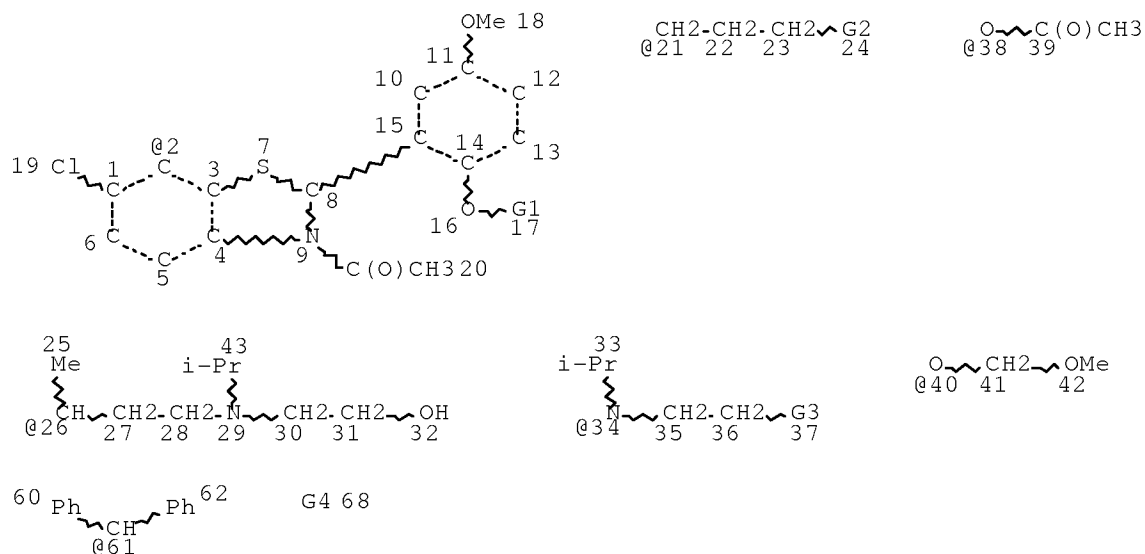
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(2 CITINGS)

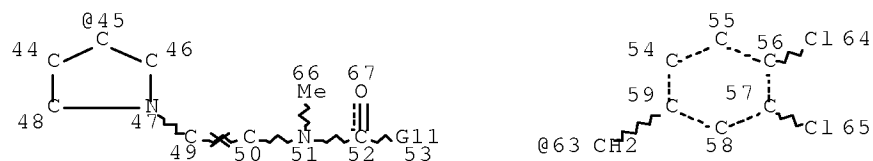


## SEARCH HISTORY

=> d stat que l10; d his nofile  
L2 STR



Page 1-A



Page 2-A

VAR G1=21/26

VAR G2=34/CL

VAR G3=38/OET/40/OH/OME

VAR G4=2/45

VAR G11=63/61

NODE ATTRIBUTES:

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NSPEC IS RC AT 50

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

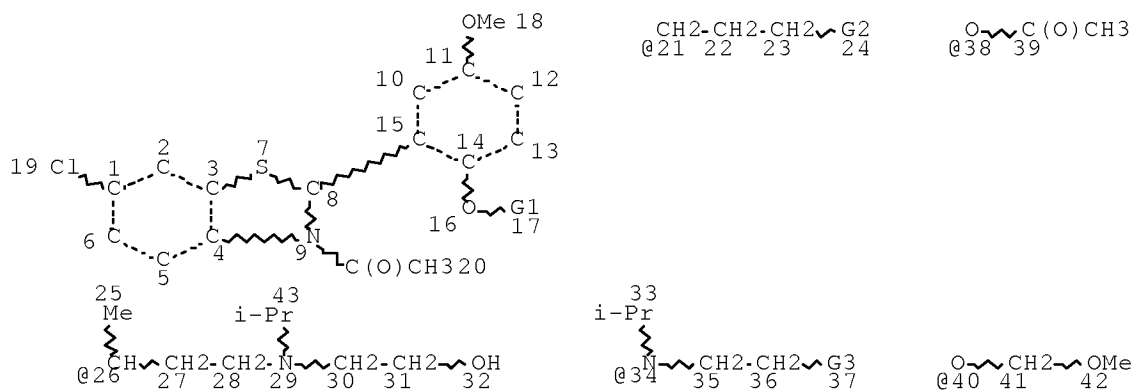
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 68

STEREO ATTRIBUTES: NONE

L4 774 SEA FILE=REGISTRY SSS FUL L2

L8 STR



VAR G1=21/26

VAR G2=34/CL

VAR G3=38/OET/40/OH/OME

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE

L10 33 SEA FILE=REGISTRY SUB=L4 SSS FUL L8

100.0% PROCESSED 33 ITERATIONS

33 ANSWERS

SEARCH TIME: 00.00.01

(FILE 'HOME' ENTERED AT 07:16:02 ON 30 JUL 2009)

FILE 'REGISTRY' ENTERED AT 07:16:29 ON 30 JUL 2009

L1 STR  
SAVE TEMP L1 JEA742STR1/Q  
L2 STR L1  
L3 3 SEA SSS SAM L2  
L4 774 SEA SSS FUL L2  
SAVE TEMP L4 JEA742FULL/A  
ACT JEA742REG/A

L5 11 SEA SPE=ON ABB=ON (185951-07-9/BI OR 610308-87-7/BI OR  
610308-92-4/BI OR 610309-27-8/BI OR 610309-63-2/BI OR 823204-37  
-1/BI OR 823204-39-3/BI OR 823204-44-0/BI OR 823204-46-2/BI OR  
823791-11-3/BI OR 83913-06-8/BI)

L6 11 SEA SPE=ON ABB=ON L4 AND L5

FILE 'ZCAPLUS' ENTERED AT 07:29:30 ON 30 JUL 2009

L7 1880 SEA SPE=ON ABB=ON L4

FILE 'REGISTRY' ENTERED AT 07:29:39 ON 30 JUL 2009

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L8          STR L1
L9          1 SEA SUB=L4 SSS SAM L8
            D SCA
L10         33 SEA SUB=L4 SSS FUL L8
            SAVE TEMP L10 JEA742SUB1/A
L11         STR L2
L12         1 SEA SUB=L4 SSS SAM L11
            D SCA
L13         STR L11
L14         0 SEA SUB=L4 SSS SAM L13
L15         63 SEA SUB=L4 SSS FUL L13
            SAVE TEMP L15 JEA742SUB2/A
L16         15 SEA SPE=ON  ABB=ON  L15 AND 4/NR
L17         58 SEA SPE=ON  ABB=ON  L15 AND CL/ELS
L18         10 SEA SPE=ON  ABB=ON  L16 AND L17
            SAVE TEMP L18 JEA742SUB3/A
            D SCA
L19         7 SEA SPE=ON  ABB=ON  L18 AND A
L20         1631 SEA SPE=ON  ABB=ON  C27H30N2O2
L21         8 SEA SPE=ON  ABB=ON  L18 NOT L20
            SAVE TEMP L21 JEA742SUB3/A
L22         7 SEA SPE=ON  ABB=ON  L16 NOT L21
            D SCA
            SAVE TEMP L22 JEA742SUB4/A
L23         15 SEA SPE=ON  ABB=ON  (L21 OR L22)
L24         48 SEA SPE=ON  ABB=ON  L17 NOT L16
            D SCA
L25         64888 SEA SPE=ON  ABB=ON  OXASPIRO
L26         3 SEA SPE=ON  ABB=ON  L24 AND L25
            D SCA
L27         11 SEA SPE=ON  ABB=ON  (L21 OR L26)
            SAVE TEMP L27 JEA742SUB3/A
L28         45 SEA SPE=ON  ABB=ON  L24 NOT L25
            SAVE TEMP L28 JEA742SUB5/A

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FILE 'CAPLUS' ENTERED AT 07:55:12 ON 30 JUL 2009  
 ACT JEA742CAAU/A

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L29         1 SEA SPE=ON  ABB=ON  US2005-562742/AP
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L30         1366 SEA SPE=ON  ABB=ON  SHIMOMURA K?/AU
L31         387 SEA SPE=ON  ABB=ON  AONO H?/AU
L32         516 SEA SPE=ON  ABB=ON  TSUKAHARA Y?/AU
L33         2370 SEA SPE=ON  ABB=ON  HATA T?/AU
L34         1880 SEA SPE=ON  ABB=ON  L4
L35         3 SEA SPE=ON  ABB=ON  L10
L36         195 SEA SPE=ON  ABB=ON  L27
L37         87 SEA SPE=ON  ABB=ON  L22
L38         1606 SEA SPE=ON  ABB=ON  L28
L39         1 SEA SPE=ON  ABB=ON  (L29 OR L30 OR L31 OR L32 OR L33) AND L34

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FILE 'REGISTRY' ENTERED AT 07:57:48 ON 30 JUL 2009

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L40         1 SEA SPE=ON  ABB=ON  L5 AND L27
            D IDE
L41         2 SEA SPE=ON  ABB=ON  823791-10-2 OR 823791-10-2/CRN
L42         1 SEA SPE=ON  ABB=ON  L5 AND L28
            D IDE
L43         14 SEA SPE=ON  ABB=ON  67198-13-4 OR 67198-13-4/CRN
L44         1 SEA SPE=ON  ABB=ON  L22 AND L5
            D IDE

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L45            2 SEA SPE=ON    ABB=ON    153205-46-0 OR 153205-46-0/CRN  
 L46           14 SEA SPE=ON    ABB=ON    67198-13-4 OR 67198-13-4/CRN  
 L47           2 SEA SPE=ON    ABB=ON    153205-46-0 OR 153205-46-0/CRN

FILE 'CAPLUS' ENTERED AT 08:04:05 ON 30 JUL 2009

L48           2 SEA SPE=ON    ABB=ON    L41  
 L49           1545 SEA SPE=ON    ABB=ON    L43  
 L50           87 SEA SPE=ON    ABB=ON    L45

FILE 'REGISTRY' ENTERED AT 08:04:29 ON 30 JUL 2009

L51           1 SEA SPE=ON    ABB=ON    67198-13-4  
 L52           1 SEA SPE=ON    ABB=ON    153205-46-0

FILE 'CAPLUS' ENTERED AT 08:04:58 ON 30 JUL 2009

L53           539 SEA SPE=ON    ABB=ON    L51  
 L54           82 SEA SPE=ON    ABB=ON    L52

FILE 'CAPLUS' ENTERED AT 08:07:05 ON 30 JUL 2009

D QUE NOS L39  
 D IBIB ABS HITSTR L39

FILE 'REGISTRY' ENTERED AT 08:07:38 ON 30 JUL 2009

D STAT QUE L10

FILE 'CAPLUS' ENTERED AT 08:07:38 ON 30 JUL 2009

D QUE NOS L35  
 L55           2 SEA SPE=ON    ABB=ON    L35 NOT L39  
 D IBIB ABS HITSTR L55 1-2

FILE 'REGISTRY' ENTERED AT 08:08:01 ON 30 JUL 2009

D STAT QUE L41  
 D IDE L41 1-2

FILE 'CAPLUS' ENTERED AT 08:08:23 ON 30 JUL 2009

D QUE NOS L48  
 L56           1 SEA SPE=ON    ABB=ON    L48 NOT L39  
 D IBIB ABS HITIND

FILE 'REGISTRY' ENTERED AT 08:08:54 ON 30 JUL 2009

D QUE L45

FILE 'CAPLUS' ENTERED AT 08:09:05 ON 30 JUL 2009

D QUE L50  
 D IBIB ABS HITSTR L50 74-87

FILE 'REGISTRY' ENTERED AT 08:10:55 ON 30 JUL 2009

D QUE L43  
 D QUE L52

FILE 'CAPLUS' ENTERED AT 08:11:17 ON 30 JUL 2009

D QUE L53  
 D IBIB ABS HITSTR L53 530-539  
 D QUE L49  
 L57           1006 SEA SPE=ON    ABB=ON    L49 NOT L53  
 D IBIB ABS HITSTR L57 997-1006  
 D STAT QUE L10

=>